

SEQUENCE LISTING

<110> Bertelli, Francois
Brown, Jason P.

<120> SECRETED SOLUBLE ALPHA2DELTA-2, ALPHA2DELTA-3 OR
ALPHA2DELTA-4 CALCIUM CHANNEL SUBUNIT POLYPEPTIDES AND
SCREENING ASSAYS USING SAME

<130> A0000180 Sequence

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<150> PCT/EP00/09137

<151> 2000-09-18

<150> 09/397,550

<151> 1999-09-16

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<170> PatentIn Ver. 2.1

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Val	Trp	Arg	Asp	Gln	Asp	Leu	Asn	Thr	Tyr	Ser	Leu	Leu	Ala	Val	Phe	740	745	750	
Ala	Ala	Thr	Asp	Gly	Gly	Ile	Thr	Arg	Val	Phe	Pro	Asn	Lys	Ala	Ala	755	760	765	
Glu	Asp	Trp	Thr	Glu	Asn	Pro	Glu	Pro	Phe	Asn	Ala	Ser	Phe	Tyr	Arg	770	775	780	
Arg	Ser	Leu	Asp	Asn	His	Gly	Tyr	Val	Phe	Lys	Pro	Pro	His	Gln	Asp	785	790	795	800
Ala	Leu	Leu	Arg	Pro	Leu	Glu	Leu	Glu	Asn	Asp	Thr	Val	Gly	Ile	Leu	805	810	815	
Val	Ser	Thr	Ala	Val	Glu	Leu	Ser	Leu	Gly	Arg	Arg	Thr	Leu	Arg	Pro	820	825	830	
Ala	Val	Val	Gly	Val	Lys	Leu	Asp	Leu	Glu	Ala	Trp	Ala	Glu	Lys	Phe	835	840	845	
Lys	Val	Leu	Ala	Ser	Asn	Arg	Thr	His	Gln	Asp	Gln	Pro	Gln	Lys	Cys	850	855	860	
Gly	Pro	Asn	Ser	His	Cys	Glu	Met	Asp	Cys	Glu	Val	Asn	Asn	Glu	Asp	865	870	875	880

Leu Leu Cys Val Leu Ile Asp Asp Gly Gly Phe Leu Val Leu Ser Asn
885 890 895

Gln Asn His Gln Trp Asp Gln Val Gly Arg Phe Phe Ser Glu Val Asp
900 905 910

Ala Asn Leu Met Leu Ala Leu Tyr Asn Asn Ser Phe Tyr Thr Arg Lys
915 920 925

Glu Ser Tyr Asp Tyr Gln Ala Ala Cys Ala Pro Gln Pro Pro Gly Asn
930 935 940

Leu Gly Ala Ala Pro Arg Gly Val Phe Val Pro Thr Val Ala Asp Phe
945 950 955 960

Leu Asn Leu Ala Trp Trp Thr Ser Ala Ala Ala Trp Ser Leu Phe Gln
965 970 975

Gln Leu Leu Tyr Gly Leu Ile Tyr His Ser Trp Phe Gln Ala Asp Pro
980 985 990

Ala Glu Ala Glu Gly Ser Pro Glu Thr Arg Glu Ser Ser Cys Val Met
995 1000 1005

Lys Gln Thr Gln Tyr Tyr Phe Gly Ser Val Asn Ala Ser Tyr Asn Ala
1010 1015 1020

Ile Ile Asp Cys Gly Asn Cys Ser Arg Leu Phe His Ala Gln Arg Leu
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Pro	Leu	Leu	Pro	Leu	Leu	Ala	Ala	Pro	Gly	Ala	Ser	Ala	Tyr	Ser	Phe			
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Pro	Gln	Gln	His	Thr	Met	Gln	His	Trp	Ala	Arg	Arg	Leu	Glu	Gln	Glu			
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Val	Asp	Gly	Val	Met	Arg	Ile	Phe	Gly	Gly	Val	Gln	Gln	Leu	Arg	Glu			
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Ile	Tyr	Lys	Asp	Asn	Arg	Asn	Leu	Phe	Glu	Val	Gln	Glu	Asn	Glu	Pro			
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Gln	Lys	Leu	Val	Glu	Lys	Val	Ala	Gly	Asp	Ile	Glu	Ser	Leu	Leu	Asp			
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Arg	Lys	Val	Gln	Ala	Leu	Lys	Arg	Leu	Ala	Asp	Ala	Ala	Glu	Asn	Phe			
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Gln	Lys	Ala	His	Arg	Trp	Gln	Asp	Asn	Ile	Lys	Glu	Glu	Asp	Ile	Val			
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Tyr	Tyr	Asp	Ala	Lys	Ala	Asp	Ala	Glu	Leu	Asp	Asp	Pro	Glu	Ser	Glu			
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Asp	Val	Glu	Arg	Gly	Ser	Lys	Ala	Ser	Thr	Leu	Arg	Leu	Asp	Phe	Ile			
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Glu	Asp	Pro	Asn	Phe	Lys	Asn	Lys	Val	Asn	Tyr	Ser	Tyr	Ala	Ala	Val			
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Leu	Tyr	Asp	Val	Arg	Arg	Arg	Pro	Trp	Tyr	Ile	Gln	Gly	Ala	Ser	Ser			
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Leu Thr Leu Lys Leu Met Lys Thr Ser Val Cys Glu Met Leu Asp Thr
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Gln Pro Val Ser Cys Phe Thr His Leu Val Gln Ala Asn Val Arg Asn
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Lys Lys Val Phe Lys Glu Ala Val Gln Gly Met Val Ala Lys Gly Thr
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Thr Gly Tyr Lys Ala Gly Phe Glu Tyr Ala Phe Asp Gln Leu Gln Asn
 370 375 380

Ser Asn Ile Thr Arg Ala Asn Cys Asn Lys Met Ile Met Met Phe Thr
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Asp Gly Gly Glu Asp Arg Val Gln Asp Val Phe Glu Lys Tyr Asn Trp
 405 410 415

Pro Asn Arg Thr Val Arg Val Phe Thr Phe Ser Val Gly Gln His Asn
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Tyr Asp Val Thr Pro Leu Gln Trp Met Ala Cys Ala Asn Lys Gly Tyr
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Tyr Phe Glu Ile Pro Ser Ile Gly Ala Ile Arg Ile Asn Thr Gln Glu
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Tyr Leu Asp Val Leu Gly Arg Pro Met Val Leu Ala Gly Lys Glu Ala
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Lys Gln Val Gln Trp Thr Asn Val Tyr Glu Asp Ala Leu Gly Leu Gly
 485 490 495

Leu Val Val Thr Gly Thr Leu Pro Val Phe Asn Leu Thr Gln Asp Gly
 500 505 510

Pro Gly Glu Lys Lys Asn Gln Leu Ile Leu Gly Val Met Gly Ile Asp
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Val Ala Leu Asn Asp Ile Lys Arg Leu Thr Pro Asn Tyr Thr Leu Gly
 530 535 540

Ala Asn Gly Tyr Val Phe Ala Ile Asp Leu Asn Gly Tyr Val Leu Leu			
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His Pro Asn Leu Lys Pro Gln Thr Thr Asn Phe Arg Glu Pro Val Thr			
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Arg Arg Ser Met Ile Asp Gly Asn Lys Gly His Lys Gln Ile Arg Thr			
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Leu Val Lys Ser Leu Asp Glu Arg Tyr Ile Asp Glu Val Thr Arg Asn			
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Ile Leu Gln Val Lys Tyr Phe Glu Phe Leu Leu Pro Ser Ser Phe Glu			
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Ser Glu Gly His Val Phe Ile Ala Pro Arg Glu Tyr Cys Lys Asp Leu			
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Asn Ala Ser Asp Asn Asn Thr Glu Phe Leu Lys Asn Phe Ile Glu Leu			
690	695	700	
Met Glu Lys Val Thr Pro Asp Ser Lys Gln Cys Asn Asn Phe Leu Leu			
705	710	715	720
His Asn Leu Ile Leu Asp Thr Gly Ile Thr Gln Gln Leu Val Glu Arg			
	725	730	735
Val Trp Arg Asp Gln Asp Leu Asn Thr Tyr Ser Leu Leu Ala Val Phe			
	740	745	750
Ala Ala Thr Asp Gly Gly Ile Thr Arg Val Phe Pro Asn Lys Ala Ala			
	755	760	765
Glu Asp Trp Thr Glu Asn Pro Glu Pro Phe Asn Ala Ser Phe Tyr Arg			
770	775	780	
Arg Ser Leu Asp Asn His Gly Tyr Val Phe Lys Pro Pro His Gln Asp			
785	790	795	800

Ala Leu Leu Arg Pro Leu Glu Leu Glu Asn Asp Thr Val Gly Ile Leu
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 Val Ser Thr Ala Val Glu Leu Ser Leu Gly Arg Arg Thr Leu Arg Pro
 820 825 830
 Ala Val Val Gly Val Lys Leu Asp Leu Glu Ala Trp Ala Glu Lys Phe
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 Lys Val Leu Ala Ser Asn Arg Thr His Gln Asp Gln Pro Gln Lys Cys
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Val Asp Gly Val Met Arg Ile Phe Gly Gly Val Gln Gln Leu Arg Glu
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Ile Tyr Lys Asp Asn Arg Asn Leu Phe Glu Val Gln Glu Asn Glu Pro
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Arg Lys Val Gln Ala Leu Lys Arg Leu Ala Asp Ala Ala Glu Asn Phe
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Tyr Tyr Asp Ala Lys Ala Asp Ala Glu Leu Asp Asp Pro Glu Ser Glu
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Asp Val Glu Arg Gly Ser Lys Ala Ser Thr Leu Arg Leu Asp Phe Ile

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Pro Gly Glu Lys Lys Asn Gln Leu Ile Leu Gly Val Met Gly Ile Asp				
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His Pro Asn Leu Lys Pro Gln Thr Thr Asn Phe Arg Glu Pro Val Thr				
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Met Glu Lys Val Thr Pro Asp Ser Lys Gln Cys Asn Asn Phe Leu Leu		
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His Asn Leu Ile Leu Asp Thr Gly Ile Thr Gln Gln Leu Val Glu Arg		
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Val Trp Arg Asp Gln Asp Leu Asn Thr Tyr Ser Leu Leu Ala Val Phe		
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<212> DNA

<213> Homo sapiens

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<211> 1019

<212> PRT

<213> Homo sapiens

<400> 10

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Phe Gly Gly Glu Ile Lys Ser Ile Ala Ala Lys Tyr Ser Gly Ser Gln
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Glu Ile Asp Gly Leu Gln Leu Val Lys Lys Leu Ala Lys Asn Met Glu
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Glu Met Phe His Lys Lys Ser Glu Ala Val Arg Arg Leu Val Glu Ala
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 Asn Asn Leu Pro Val Asn Ile Ser Leu Ser Asp Val Gln Val Pro Thr
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 Asn Met Tyr Asn Lys Asp Pro Ala Ile Val Asn Gly Val Tyr Trp Ser
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 Glu Ser Leu Asn Lys Val Phe Val Asp Asn Phe Asp Arg Asp Pro Ser
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 Leu Ile Trp Gln Tyr Phe Gly Ser Ala Lys Gly Phe Phe Arg Gln Tyr
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 Pro Gly Ile Lys Trp Glu Pro Asp Glu Asn Gly Val Ile Ala Phe Asp
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 Cys Arg Asn Arg Lys Trp Tyr Ile Gln Ala Ala Thr Ser Pro Lys Asp
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 Glu Pro Cys Leu Asn Gly Thr Leu Val Gln Ala Asp Arg Thr Asn Lys
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 Glu His Phe Arg Glu His Leu Asp Lys Leu Phe Ala Lys Gly Ile Gly
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 Met Leu Asp Ile Ala Leu Asn Glu Ala Phe Asn Ile Leu Ser Asp Phe
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Gly	Asn	Val	Thr	Ile	Glu	Glu	Gly	Leu	His	Asp	Leu	Glu	His	Pro	Asp	
625					630					635					640	
Val	Ser	Leu	Ala	Asp	Glu	Trp	Ser	Tyr	Cys	Asn	Thr	Asp	Leu	His	Pro	
645					650					655						
Glu	His	Arg	His	Leu	Ser	Gln	Leu	Glu	Ala	Ile	Lys	Leu	Tyr	Leu	Lys	
660					665					670						
Gly	Lys	Glu	Pro	Leu	Leu	Gln	Cys	Asp	Lys	Glu	Leu	Ile	Gln	Glu	Val	
675					680					685						
Leu	Phe	Asp	Ala	Val	Val	Ser	Ala	Pro	Ile	Glu	Ala	Tyr	Trp	Thr	Ser	
690					695					700						
Leu	Ala	Leu	Asn	Lys	Ser	Glu	Asn	Ser	Asp	Lys	Gly	Val	Glu	Val	Ala	
705					710					715					720	
Phe	Leu	Gly	Thr	Arg	Thr	Gly	Leu	Ser	Arg	Ile	Asn	Leu	Phe	Val	Gly	
725					730					735						
Ala	Glu	Gln	Leu	Thr	Asn	Gln	Asp	Phe	Leu	Lys	Ala	Gly	Asp	Lys	Glu	
740					745					750						
Asn	Ile	Phe	Asn	Ala	Asp	His	Phe	Pro	Leu	Trp	Tyr	Arg	Arg	Ala	Ala	
755					760					765						
Glu	Gln	Ile	Pro	Gly	Ser	Phe	Val	Tyr	Ser	Ile	Pro	Phe	Ser	Thr	Gly	
770					775					780						
Pro	Val	Asn	Lys	Ser	Asn	Val	Val	Thr	Ala	Ser	Thr	Ser	Ile	Gln	Leu	
785					790					795					800	
Leu	Asp	Glu	Arg	Lys	Ser	Pro	Val	Val	Ala	Ala	Val	Gly	Ile	Gln	Met	
805					810					815						
Lys	Leu	Glu	Phe	Phe	Gln	Arg	Lys	Phe	Trp	Thr	Ala	Ser	Arg	Gln	Cys	
820					825					830						
Ala	Ser	Leu	Asp	Gly	Lys	Cys	Ser	Ile	Ser	Cys	Asp	Asp	Glu	Thr	Val	

835					840					845					
Asn	Cys	Tyr	Leu	Ile	Asp	Asn	Asn	Gly	Phe	Ile	Leu	Val	Ser	Glu	Asp
850					855					860					
Tyr	Thr	Gln	Thr	Gly	Asp	Phe	Phe	Gly	Glu	Ile	Glu	Gly	Ala	Val	Met
865					870					875					880
Asn	Lys	Leu	Leu	Thr	Met	Gly	Ser	Phe	Lys	Arg	Ile	Thr	Leu	Tyr	Asp
					885					890					895
Tyr	Gln	Ala	Met	Cys	Arg	Ala	Asn	Lys	Glu	Ser	Ser	Asp	Gly	Ala	His
900										905					910
Gly	Leu	Leu	Asp	Pro	Tyr	Asn	Ala	Phe	Leu	Ser	Ala	Val	Lys	Trp	Ile
915										920					925
Met	Thr	Glu	Leu	Val	Leu	Phe	Leu	Val	Glu	Phe	Asn	Leu	Cys	Ser	Trp
930					935					940					
Trp	His	Ser	Asp	Met	Thr	Ala	Lys	Ala	Gln	Lys	Leu	Lys	Gln	Thr	Leu
945					950					955					960
Glu	Pro	Cys	Asp	Thr	Glu	Tyr	Pro	Ala	Phe	Val	Ser	Glu	Arg	Thr	Ile
					965					970					975
Lys	Glu	Thr	Thr	Gly	Asn	Ile	Ala	Cys	Glu	Asp	Cys	Ser	Lys	Ser	Phe
980										985					990
Val	Ile	Gln	Gln	Ile	Pro	Ser	Ser	Asn	Leu	Phe	Met	Val	Val	Val	Asp
995					1000					1005					
Ser	Ser	Cys	Leu	Cys	Glu	Ser	Val	Ala	Pro	Ile	Thr	Met	Ala	Pro	Ile
1010					1015					1020					
Glu	Ile	Arg	Tyr	Asn	Glu	Ser	Leu	Lys	Cys	Glu	Arg	Leu	Lys		
1025					1030					1035					

<210> 12

<211> 1065

<212> PRT

<213> Homo sapiens

<400> 12

Met Ala Gly Pro Gly Ser Pro Arg Arg Ala Ser Arg Gly Ala Ser Ala

1

5

10

15

Leu Leu Ala Ala Ala Leu Leu Tyr Ala Ala Leu Gly Asp Val Val Arg
 20 25 30
 Ser Glu Gln Gln Ile Pro Leu Ser Val Val Lys Leu Trp Ala Ser Ala
 35 40 45
 Phe Gly Gly Glu Ile Lys Ser Ile Ala Ala Lys Tyr Ser Gly Ser Gln
 50 55 60
 Leu Leu Gln Lys Lys Tyr Lys Glu Tyr Glu Lys Asp Val Ala Ile Glu
 65 70 75 80
 Glu Ile Asp Gly Leu Gln Leu Val Lys Lys Leu Ala Lys Asn Met Glu
 85 90 95
 Glu Met Phe His Lys Lys Ser Glu Ala Val Arg Arg Leu Val Glu Ala
 100 105 110
 Ala Glu Glu Ala His Leu Lys His Glu Phe Asp Ala Asp Leu Gln Tyr
 115 120 125
 Glu Tyr Phe Asn Ala Val Leu Ile Asn Glu Arg Asp Lys Asp Gly Asn
 130 135 140
 Phe Leu Glu Leu Gly Lys Glu Phe Ile Leu Ala Pro Asn Asp His Phe
 145 150 155 160
 Asn Asn Leu Pro Val Asn Ile Ser Leu Ser Asp Val Gln Val Pro Thr
 165 170 175
 Asn Met Tyr Asn Lys Asp Pro Ala Ile Val Asn Gly Val Tyr Trp Ser
 180 185 190
 Glu Ser Leu Asn Lys Val Phe Val Asp Asn Phe Asp Arg Asp Pro Ser
 195 200 205
 Leu Ile Trp Gln Tyr Phe Gly Ser Ala Lys Gly Phe Phe Arg Gln Tyr
 210 215 220
 Pro Gly Ile Lys Trp Glu Pro Asp Glu Asn Gly Val Ile Ala Phe Asp
 225 230 235 240
 Cys Arg Asn Arg Lys Trp Tyr Ile Gln Ala Ala Thr Ser Pro Lys Asp
 245 250 255
 Val Val Ile Leu Val Asp Val Ser Gly Ser Met Lys Gly Leu Arg Leu
 260 265 270

Thr	Ile	Ala	Lys	Gln	Thr	Val	Ser	Ser	Ile	Leu	Asp	Thr	Leu	Gly	Asp	275	280	285
Asp	Asp	Phe	Phe	Asn	Ile	Ile	Ala	Tyr	Asn	Glu	Glu	Leu	His	Tyr	Val	290	295	300
Glu	Pro	Cys	Leu	Asn	Gly	Thr	Leu	Val	Gln	Ala	Asp	Arg	Thr	Asn	Lys	305	310	315 320
Glu	His	Phe	Arg	Glu	His	Leu	Asp	Lys	Leu	Phe	Ala	Lys	Gly	Ile	Gly	325	330	335
Met	Leu	Asp	Ile	Ala	Leu	Asn	Glu	Ala	Phe	Asn	Ile	Leu	Ser	Asp	Phe	340	345	350
Asn	His	Thr	Gly	Gln	Gly	Ser	Ile	Cys	Ser	Gln	Ala	Ile	Met	Leu	Ile	355	360	365
Thr	Asp	Gly	Ala	Val	Asp	Thr	Tyr	Asp	Thr	Ile	Phe	Ala	Lys	Tyr	Asn	370	375	380
Trp	Pro	Asp	Arg	Lys	Val	Arg	Ile	Phe	Thr	Tyr	Leu	Ile	Gly	Arg	Glu	385	390	395 400
Ala	Ala	Phe	Ala	Asp	Asn	Leu	Lys	Trp	Met	Ala	Cys	Ala	Asn	Lys	Gly	405	410	415
Phe	Phe	Thr	Gln	Ile	Ser	Thr	Leu	Ala	Asp	Val	Gln	Glu	Asn	Val	Met	420	425	430
Glu	Tyr	Leu	His	Val	Leu	Ser	Arg	Pro	Lys	Val	Ile	Asp	Gln	Glu	His	435	440	445
Asp	Val	Val	Trp	Thr	Glu	Ala	Tyr	Ile	Asp	Ser	Thr	Leu	Thr	Asp	Asp	450	455	460
Gln	Gly	Pro	Val	Leu	Met	Thr	Thr	Val	Ala	Met	Pro	Val	Phe	Ser	Lys	465	470	475 480
Gln	Asn	Glu	Thr	Arg	Ser	Lys	Gly	Ile	Leu	Leu	Gly	Val	Val	Gly	Thr	485	490	495
Asp	Val	Pro	Val	Lys	Glu	Leu	Leu	Lys	Thr	Ile	Pro	Lys	Tyr	Lys	Leu	500	505	510
Gly	Ile	His	Gly	Tyr	Ala	Phe	Ala	Ile	Thr	Asn	Asn	Gly	Tyr	Ile	Leu	515	520	525

Thr	His	Pro	Glu	Leu	Arg	Leu	Leu	Tyr	Glu	Glu	Gly	Lys	Lys	Arg	Arg	530	535	540	
Lys	Pro	Asn	Tyr	Ser	Ser	Val	Asp	Leu	Ser	Glu	Val	Glu	Trp	Glu	Asp	545	550	555	560
Arg	Asp	Asp	Val	Leu	Arg	Asn	Ala	Met	Val	Asn	Arg	Lys	Thr	Gly	Lys	565	570	575	
Phe	Ser	Met	Glu	Val	Lys	Lys	Thr	Val	Asp	Lys	Gly	Lys	Arg	Val	Leu	580	585	590	
Val	Met	Thr	Asn	Asp	Tyr	Tyr	Tyr	Thr	Asp	Ile	Lys	Gly	Thr	Pro	Phe	595	600	605	
Ser	Leu	Gly	Val	Ala	Leu	Ser	Arg	Gly	His	Gly	Lys	Tyr	Phe	Phe	Arg	610	615	620	
Gly	Asn	Val	Thr	Ile	Glu	Glu	Gly	Leu	His	Asp	Leu	Glu	His	Pro	Asp	625	630	635	640
Val	Ser	Leu	Ala	Asp	Glu	Trp	Ser	Tyr	Cys	Asn	Thr	Asp	Leu	His	Pro	645	650	655	
Glu	His	Arg	His	Leu	Ser	Gln	Leu	Glu	Ala	Ile	Lys	Leu	Tyr	Leu	Lys	660	665	670	
Gly	Lys	Glu	Pro	Leu	Leu	Gln	Cys	Asp	Lys	Glu	Leu	Ile	Gln	Glu	Val	675	680	685	
Leu	Phe	Asp	Ala	Val	Val	Ser	Ala	Pro	Ile	Glu	Ala	Tyr	Trp	Thr	Ser	690	695	700	
Leu	Ala	Leu	Asn	Lys	Ser	Glu	Asn	Ser	Asp	Lys	Gly	Val	Glu	Val	Ala	705	710	715	720
Phe	Leu	Gly	Thr	Arg	Thr	Gly	Leu	Ser	Arg	Ile	Asn	Leu	Phe	Val	Gly	725	730	735	
Ala	Glu	Gln	Leu	Thr	Asn	Gln	Asp	Phe	Leu	Lys	Ala	Gly	Asp	Lys	Glu	740	745	750	
Asn	Ile	Phe	Asn	Ala	Asp	His	Phe	Pro	Leu	Trp	Tyr	Arg	Arg	Ala	Ala	755	760	765	
Glu	Gln	Ile	Pro	Gly	Ser	Phe	Val	Tyr	Ser	Ile	Pro	Phe	Ser	Thr	Gly	770	775	780	

Pro Val Asn Lys Ser Asn Val Val Thr Ala Ser Thr Ser Ile Gln Leu			
785	790	795	800
Leu Asp Glu Arg Lys Ser Pro Val Val Ala Ala Val Gly Ile Gln Met			
	805	810	815
Lys Leu Glu Phe Phe Gln Arg Lys Phe Trp Thr Ala Ser Arg Gln Cys			
	820	825	830
Ala Ser Leu Asp Gly Lys Cys Ser Ile Ser Cys Asp Asp Glu Thr Val			
	835	840	845
Asn Cys Tyr Leu Ile Asp Asn Asn Gly Phe Ile Leu Val Ser Glu Asp			
	850	855	860
Tyr Thr Gln Thr Gly Asp Phe Phe Gly Glu Ile Glu Gly Ala Val Met			
865	870	875	880
Asn Lys Leu Leu Thr Met Gly Ser Phe Lys Arg Ile Thr Leu Tyr Asp			
	885	890	895
Tyr Gln Ala Met Cys Arg Ala Asn Lys Glu Ser Ser Asp Gly Ala His			
	900	905	910
Gly Leu Leu Asp Pro Tyr Asn Ala Phe Leu Ser Ala Val Lys Trp Ile			
	915	920	925
Met Thr Glu Leu Val Leu Phe Leu Val Glu Phe Asn Leu Cys Ser Trp			
	930	935	940
Trp His Ser Asp Met Thr Ala Lys Ala Gln Lys Leu Lys Gln Thr Leu			
945	950	955	960
Glu Pro Cys Asp Thr Glu Tyr Pro Ala Phe Val Ser Glu Arg Thr Ile			
	965	970	975
Lys Glu Thr Thr Gly Asn Ile Ala Cys Glu Asp Cys Ser Lys Ser Phe			
	980	985	990
Val Ile Gln Gln Ile Pro Ser Ser Asn Leu Phe Met Val Val Val Asp			
	995	1000	1005
Ser Ser Cys Leu Cys Glu Ser Val Ala Pro Ile Thr Met Ala Pro Ile			
1010	1015	1020	
Glu Ile Arg Tyr Asn Glu Ser Leu Lys Cys Glu Arg Leu Lys Ala Gln			
1025	1030	1035	1040

Lys Ile Arg Arg Arg Pro Glu Ser Cys His Gly Phe His Pro Glu Glu
1045 1050 1055

Asn Ala Arg Glu Cys Gly Gly Ala Pro
1060 1065

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<211> 912
<212> DNA
<213> Homo sapiens

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ctgacacctg aggacgaggc cagcgtgttc accctggacc gcttcccgtg gtggtaccgc 120
caggcctcag agcatcctgc tggcagcttc gtcttcaacc tccgctgggc agaaggacca 180
gaaagtgcgg gtgaacccat ggtggtgacg gcaagcacag ctgtggcggg gaccgtggac 240
aagaggacag ccattgctgc agccgcgggc gtccaaatga agctggaatt cctccagcgc 300
aaattctggg cggcaacgcg gcagtgcagc actgtggatg ggccgtgcac acagagctgc 360
gaggacagtg atctggactg ctctgtcatc gacaacaacg gggtcattct gatctccaag 420
aggtcccag agacgggaag atttctgggg gaggtggatg gtgctgtcct gacctagctg 480
ctcagcatgg ggggtgttcag ccaagtgact atgtatgact atcaggccat gtgcaaacc 540
tcgagtcacc accacagtgc agcccagccc ctggtcagcc caatttctgc cttcttgacg 600
gcgaccaggt ggctgctgca ggagctggtg ctgttctctg tggagtggag tgtctggggc 660
tcctgtgtac acagaggggg cgaggccaaa agtgtcttcc atcactccca caaacacaag 720
aagcaggacc cgctgcagcc ctgcgacacg gaggaccccg tgttcgtgta ccagccggcc 780
atccgggagg ccaacgggat cgtggagtgc gggccctgcc agaaggtatt tgtggtgcag 840
cagattccca acagtaacct cctcctcctg gtgacagacc ccacctgtga ctgcagcatc 900
ttcccaccag tg 912

<210> 14
<211> 969
<212> DNA
<213> Homo sapiens

<400> 14
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ctgacacctg aggacgaggc cagcgtgttc accctggacc gcttcccgtg gtggtaccgc 120
caggcctcag agcatcctgc tggcagcttc gtcttcaacc tccgctgggc agaaggacca 180
gaaagtgcgg gtgaacccat ggtggtgacg gcaagcacag ctgtggcggg gaccgtggac 240
aagaggacag ccattgctgc agccgcgggc gtccaaatga agctggaatt cctccagcgc 300
aaattctggg cggcaacgcg gcagtgcagc actgtggatg ggccgtgcac acagagctgc 360
gaggacagtg atctggactg ctctgtcatc gacaacaacg gggtcattct gatctccaag 420
aggtcccag agacgggaag atttctgggg gaggtggatg gtgctgtcct gacctagctg 480
ctcagcatgg ggggtgttcag ccaagtgact atgtatgact atcaggccat gtgcaaacc 540
tcgagtcacc accacagtgc agcccagccc ctggtcagcc caatttctgc cttcttgacg 600
gcgaccaggt ggctgctgca ggagctggtg ctgttctctg tggagtggag tgtctggggc 660

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tcctggtacg acagaggggc cgaggccaaa agtgtcttcc atcactccca caaacacaag 720
aagcaggacc cgctgcagcc ctgcgacacg gagtaccccg tgttcgtgta ccagccggcc 780
atccgggagg ccaacgggat cgtggagtgc gggccctgcc agaaggtatt tgtggtgcag 840
cagattccca acagtaacct cctcctcctg gtgacagacc ccacctgtga ctgcagcatc 900
ttcccaccag tgctgcagga ggcgacagaa gtcaaata atgcctctgt caaatgtgac 960
cggatgcgc                                     969

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<210> 15

<211> 1050

<212> DNA

<213> Homo sapiens

<400> 15

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ctgacacctg aggacgaggc cagcgtgttc accctggacc gttcccgct gtggtaccgc 120
caggcctcag agcatcctgc tggcagcttc gtcttcaacc tccgctgggc agaaggacca 180
gaaagtgcgg gtgaacccat ggtggtgacg gcaagcacag ctgtggcggg gaccgtggac 240
aagaggacag ccattgctgc agccgcgggc gtccaaatga agctggaatt cctccagcgc 300
aaattctggg cggcaacgcg gcagtgcagc actgtggatg ggccgtgcac acagagctgc 360
gaggacagtg atctggactg cttcgtcatc gacaacaacg ggttcattct gatctccaag 420
aggtcccgag agacgggaag atttctgggg gaggtggatg gtgctgtcct gaccagctg 480
ctcagcatgg ggggtgttcag ccaagtgact atgtatgact atcaggccat gtgcaaacc 540
tcgagtcacc accacagtgc agcccagccc ctggtcagcc caatttctgc cttcttgacg 600
gcgaccaggt ggctgctgca ggagctggtg ctgttcctgc tggagtggag tgtctggggc 660
tcctggtacg acagaggggc cgaggccaaa agtgtcttcc atcactccca caaacacaag 720
aagcaggacc cgctgcagcc ctgcgacacg gagtaccccg tgttcgtgta ccagccggcc 780
atccgggagg ccaacgggat cgtggagtgc gggccctgcc agaaggtatt tgtggtgcag 840
cagattccca acagtaacct cctcctcctg gtgacagacc ccacctgtga ctgcagcatc 900
ttcccaccag tgctgcagga ggcgacagaa gtcaaata atgcctctgt caaatgtgac 960
cggatgcgct ccagaagct ccgccggcga ccagactcct gccacgcctt ccatccagag 1020
gagaatgccc aggactgcgg cggcgcctcg                                     1050

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<210> 16

<211> 304

<212> PRT

<213> Homo sapiens

<400> 16

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Ser Gly Leu Leu Arg Ser Ser Leu Phe Val Gly Ser Glu Lys Val Ser
  1                   5                   10                   15

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Asp Arg Lys Phe Leu Thr Pro Glu Asp Glu Ala Ser Val Phe Thr Leu
          20                   25                   30

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Asp Arg Phe Pro Leu Trp Tyr Arg Gln Ala Ser Glu His Pro Ala Gly
          35                   40                   45

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Ser Phe Val Phe Asn Leu Arg Trp Ala Glu Gly Pro Glu Ser Ala Gly
 50 55 60

Glu Pro Met Val Val Thr Ala Ser Thr Ala Val Ala Val Thr Val Asp
 65 70 75 80

Lys Arg Thr Ala Ile Ala Ala Ala Ala Gly Val Gln Met Lys Leu Glu
 85 90 95

Phe Leu Gln Arg Lys Phe Trp Ala Ala Thr Arg Gln Cys Ser Thr Val
 100 105 110

Asp Gly Pro Cys Thr Gln Ser Cys Glu Asp Ser Asp Leu Asp Cys Phe
 115 120 125

Val Ile Asp Asn Asn Gly Phe Ile Leu Ile Ser Lys Arg Ser Arg Glu
 130 135 140

Thr Gly Arg Phe Leu Gly Glu Val Asp Gly Ala Val Leu Thr Gln Leu
 145 150 155 160

Leu Ser Met Gly Val Phe Ser Gln Val Thr Met Tyr Asp Tyr Gln Ala
 165 170 175

Met Cys Lys Pro Ser Ser His His His Ser Ala Ala Gln Pro Leu Val
 180 185 190

Ser Pro Ile Ser Ala Phe Leu Thr Ala Thr Arg Trp Leu Leu Gln Glu
 195 200 205

Leu Val Leu Phe Leu Leu Glu Trp Ser Val Trp Gly Ser Trp Tyr Asp
 210 215 220

Arg Gly Ala Glu Ala Lys Ser Val Phe His His Ser His Lys His Lys
 225 230 235 240

Lys Gln Asp Pro Leu Gln Pro Cys Asp Thr Glu Tyr Pro Val Phe Val
 245 250 255

Tyr Gln Pro Ala Ile Arg Glu Ala Asn Gly Ile Val Glu Cys Gly Pro
 260 265 270

Cys Gln Lys Val Phe Val Val Gln Gln Ile Pro Asn Ser Asn Leu Leu
 275 280 285

Leu Leu Val Thr Asp Pro Thr Cys Asp Cys Ser Ile Phe Pro Pro Val
 290 295 300

<210> 17
 <211> 323
 <212> PRT
 <213> Homo sapiens

<400> 17
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 20 25 30
 Asp Arg Phe Pro Leu Trp Tyr Arg Gln Ala Ser Glu His Pro Ala Gly
 35 40 45
 Ser Phe Val Phe Asn Leu Arg Trp Ala Glu Gly Pro Glu Ser Ala Gly
 50 55 60
 Glu Pro Met Val Val Thr Ala Ser Thr Ala Val Ala Val Thr Val Asp
 65 70 75 80
 Lys Arg Thr Ala Ile Ala Ala Ala Ala Gly Val Gln Met Lys Leu Glu
 85 90 95
 Phe Leu Gln Arg Lys Phe Trp Ala Ala Thr Arg Gln Cys Ser Thr Val
 100 105 110
 Asp Gly Pro Cys Thr Gln Ser Cys Glu Asp Ser Asp Leu Asp Cys Phe
 115 120 125
 Val Ile Asp Asn Asn Gly Phe Ile Leu Ile Ser Lys Arg Ser Arg Glu
 130 135 140
 Thr Gly Arg Phe Leu Gly Glu Val Asp Gly Ala Val Leu Thr Gln Leu
 145 150 155 160
 Leu Ser Met Gly Val Phe Ser Gln Val Thr Met Tyr Asp Tyr Gln Ala
 165 170 175
 Met Cys Lys Pro Ser Ser His His His Ser Ala Ala Gln Pro Leu Val
 180 185 190
 Ser Pro Ile Ser Ala Phe Leu Thr Ala Thr Arg Trp Leu Leu Gln Glu

195	200	205
Leu Val Leu Phe Leu Leu Glu Trp Ser Val Trp Gly Ser Trp Tyr Asp		
210	215	220
Arg Gly Ala Glu Ala Lys Ser Val Phe His His Ser His Lys His Lys		
225	230	235 240
Lys Gln Asp Pro Leu Gln Pro Cys Asp Thr Glu Tyr Pro Val Phe Val		
245	250	255
Tyr Gln Pro Ala Ile Arg Glu Ala Asn Gly Ile Val Glu Cys Gly Pro		
260	265	270
Cys Gln Lys Val Phe Val Val Gln Gln Ile Pro Asn Ser Asn Leu Leu		
275	280	285
Leu Leu Val Thr Asp Pro Thr Cys Asp Cys Ser Ile Phe Pro Pro Val		
290	295	300
Leu Gln Glu Ala Thr Glu Val Lys Tyr Asn Ala Ser Val Lys Cys Asp		
305	310	315 320
Arg Met Arg		

<210> 18
 <211> 350
 <212> PRT
 <213> Homo sapiens

<400> 18
 Ser Gly Leu Leu Arg Ser Ser Leu Phe Val Gly Ser Glu Lys Val Ser
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 Asp Arg Lys Phe Leu Thr Pro Glu Asp Glu Ala Ser Val Phe Thr Leu
 20 25 30
 Asp Arg Phe Pro Leu Trp Tyr Arg Gln Ala Ser Glu His Pro Ala Gly
 35 40 45
 Ser Phe Val Phe Asn Leu Arg Trp Ala Glu Gly Pro Glu Ser Ala Gly
 50 55 60
 Glu Pro Met Val Val Thr Ala Ser Thr Ala Val Ala Val Thr Val Asp
 65 70 75 80

Lys Arg Thr Ala Ile Ala Ala Ala Ala Gly Val Gln Met Lys Leu Glu
 85 90 95

Phe Leu Gln Arg Lys Phe Trp Ala Ala Thr Arg Gln Cys Ser Thr Val
 100 105 110

Asp Gly Pro Cys Thr Gln Ser Cys Glu Asp Ser Asp Leu Asp Cys Phe
 115 120 125

Val Ile Asp Asn Asn Gly Phe Ile Leu Ile Ser Lys Arg Ser Arg Glu
 130 135 140

Thr Gly Arg Phe Leu Gly Glu Val Asp Gly Ala Val Leu Thr Gln Leu
 145 150 155 160

Leu Ser Met Gly Val Phe Ser Gln Val Thr Met Tyr Asp Tyr Gln Ala
 165 170 175

Met Cys Lys Pro Ser Ser His His His Ser Ala Ala Gln Pro Leu Val
 180 185 190

Ser Pro Ile Ser Ala Phe Leu Thr Ala Thr Arg Trp Leu Leu Gln Glu
 195 200 205

Leu Val Leu Phe Leu Leu Glu Trp Ser Val Trp Gly Ser Trp Tyr Asp
 210 215 220

Arg Gly Ala Glu Ala Lys Ser Val Phe His His Ser His Lys His Lys
 225 230 235 240

Lys Gln Asp Pro Leu Gln Pro Cys Asp Thr Glu Tyr Pro Val Phe Val
 245 250 255

Tyr Gln Pro Ala Ile Arg Glu Ala Asn Gly Ile Val Glu Cys Gly Pro
 260 265 270

Cys Gln Lys Val Phe Val Val Gln Gln Ile Pro Asn Ser Asn Leu Leu
 275 280 285

Leu Leu Val Thr Asp Pro Thr Cys Asp Cys Ser Ile Phe Pro Pro Val
 290 295 300

Leu Gln Glu Ala Thr Glu Val Lys Tyr Asn Ala Ser Val Lys Cys Asp
 305 310 315 320

Arg Met Arg Ser Gln Lys Leu Arg Arg Arg Pro Asp Ser Cys His Ala
 325 330 335

Phe His Pro Glu Glu Asn Ala Gln Asp Cys Gly Gly Ala Ser
 340 345 350

<210> 19
 <211> 5482
 <212> DNA
 <213> Homo sapiens

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 cgccgcgcgc gccgcgcga ctgccccccc tccccgcggc gccgcatctt gaatggaaac 180
 atggcggtgc cggctcggac ctgcggcgcc tctcgcccc gccagcgcg gactgcgcgc 240
 ccctggcccc gctcggcccc ccaccctggc cccggcacc gccgccccg gtccggggcc 300
 ccgcgccccg tgtggtgct gctgcgcctt ctaccgctgc tcgcgcgcgc cggcgccctt 360
 gcctacagct tccccagca gcacacgatg cagcactggg cccggcgtct ggagcaggag 420
 gtcgacggcg tgatgcggat ttttgaggc gtccagcagc tccgtgagat ttacaaggac 480
 aaccggaacc tgttcgaggt acaggagaat gaggctcaga agttggtgga gaaggaggca 540
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<212> PRT

<213> Homo sapiens

<400> 20

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 35 40 45

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Pro Gln Gln His Thr Met Gln His Trp Ala Arg Arg Leu Glu Gln Glu
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Val Asp Gly Val Met Arg Ile Phe Gly Gly Val Gln Gln Leu Arg Glu
 85 90 95

Ile Tyr Lys Asp Asn Arg Asn Leu Phe Glu Val Gln Glu Asn Glu Pro
 100 105 110

Gln Lys Leu Val Glu Lys Val Ala Gly Asp Ile Glu Ser Leu Leu Asp
 115 120 125

Arg Lys Val Gln Ala Leu Lys Arg Leu Ala Asp Ala Ala Glu Asn Phe
 130 135 140

Gln Lys Ala His Arg Trp Gln Asp Asn Ile Lys Glu Glu Asp Ile Val
 145 150 155 160

Tyr Tyr Asp Ala Lys Ala Asp Ala Glu Leu Asp Asp Pro Glu Ser Glu
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Asp Val Glu Arg Gly Ser Lys Ala Ser Thr Leu Arg Leu Asp Phe Ile

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Gln Asp Pro Thr Leu Leu Trp Gln Val Phe Gly Ser Ala Thr Gly Val					
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Thr Arg Tyr Tyr Pro Ala Thr Pro Trp Arg Ala Pro Lys Lys Ile Asp					
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Leu Tyr Asp Val Arg Arg Arg Pro Trp Tyr Ile Gln Gly Ala Ser Ser					
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Pro Lys Asp Met Val Ile Ile Val Asp Val Ser Gly Ser Val Ser Gly					
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Leu Thr Leu Lys Leu Met Lys Thr Ser Val Cys Glu Met Leu Asp Thr					
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Gln Pro Val Ser Cys Phe Thr His Leu Val Gln Ala Asn Val Arg Asn					
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Lys Lys Val Phe Lys Glu Ala Val Gln Gly Met Val Ala Lys Gly Thr					
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Thr Gly Tyr Lys Ala Gly Phe Glu Tyr Ala Phe Asp Gln Leu Gln Asn					
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Ser Asn Ile Thr Arg Ala Asn Cys Asn Lys Met Ile Met Met Phe Thr					
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Asp Gly Gly Glu Asp Arg Val Gln Asp Val Phe Glu Lys Tyr Asn Trp					
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Pro Asn Arg Thr Val Arg Val Phe Thr Phe Ser Val Gly Gln His Asn					
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Tyr Asp Val Thr Pro Leu Gln Trp Met Ala Cys Ala Asn Lys Gly Tyr					

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Lys Gln Val Gln Trp Thr Asn Val Tyr Glu Asp Ala Leu Gly Leu Gly		
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Pro Gly Glu Lys Lys Asn Gln Leu Ile Leu Gly Val Met Gly Ile Asp		
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Ile Leu Gln Val Lys Tyr Phe Glu Phe Leu Leu Pro Ser Ser Phe Glu		
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Val Ser Thr Ala Val Glu Leu Ser Leu Gly Arg Arg Thr Leu Arg Pro		
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Thr Asn Thr Asn Leu Leu Phe Val Val Ala Glu Lys Pro Leu Cys Ser			
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Asp Gly Pro Glu Gln Cys Glu Leu Val Gln Arg Pro Arg Tyr Arg Arg			
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Gly Pro His Ile Cys Phe Asp Tyr Asn Ala Thr Glu Asp Thr Ser Asp			
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Cys Gly Arg Gly Ala Ser Phe Pro Pro Ser Leu Gly Val Leu Val Ser			
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<211> 3770

<212> DNA

<213> Homo sapiens

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<212> PRT

<213> Homo sapiens

<400> 22

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Phe Gly Gly Glu Ile Lys Ser Ile Ala Ala Lys Tyr Ser Gly Ser Gln
      50             55            60

Leu Leu Gln Lys Lys Tyr Lys Glu Tyr Glu Lys Asp Val Ala Ile Glu
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Glu Ile Asp Gly Leu Gln Leu Val Lys Lys Leu Ala Lys Asn Met Glu
      85             90            95

Glu Met Phe His Lys Lys Ser Glu Ala Val Arg Arg Leu Val Glu Ala
      100            105            110

Ala Glu Glu Ala His Leu Lys His Glu Phe Asp Ala Asp Leu Gln Tyr
      115            120            125

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      130            135            140

Phe Leu Glu Leu Gly Lys Glu Phe Ile Leu Ala Pro Asn Asp His Phe

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145		150		155		160
Asn Asn Leu Pro Val	Asn Ile Ser Leu Ser Asp Val Gln Val Pro Thr					
	165		170		175	
Asn Met Tyr Asn Lys Asp Pro Ala Ile Val Asn Gly Val Tyr Trp Ser						
	180		185		190	
Glu Ser Leu Asn Lys Val Phe Val Asp Asn Phe Asp Arg Asp Pro Ser						
	195		200		205	
Leu Ile Trp Gln Tyr Phe Gly Ser Ala Lys Gly Phe Phe Arg Gln Tyr						
	210		215		220	
Pro Gly Ile Lys Trp Glu Pro Asp Glu Asn Gly Val Ile Ala Phe Asp						
	225		230		235	240
Cys Arg Asn Arg Lys Trp Tyr Ile Gln Ala Ala Thr Ser Pro Lys Asp						
	245		250		255	
Val Val Ile Leu Val Asp Val Ser Gly Ser Met Lys Gly Leu Arg Leu						
	260		265		270	
Thr Ile Ala Lys Gln Thr Val Ser Ser Ile Leu Asp Thr Leu Gly Asp						
	275		280		285	
Asp Asp Phe Phe Asn Ile Ile Ala Tyr Asn Glu Glu Leu His Tyr Val						
	290		295		300	
Glu Pro Cys Leu Asn Gly Thr Leu Val Gln Ala Asp Arg Thr Asn Lys						
	305		310		315	320
Glu His Phe Arg Glu His Leu Asp Lys Leu Phe Ala Lys Gly Ile Gly						
	325		330		335	
Met Leu Asp Ile Ala Leu Asn Glu Ala Phe Asn Ile Leu Ser Asp Phe						
	340		345		350	
Asn His Thr Gly Gln Gly Ser Ile Cys Ser Gln Ala Ile Met Leu Ile						
	355		360		365	
Thr Asp Gly Ala Val Asp Thr Tyr Asp Thr Ile Phe Ala Lys Tyr Asn						
	370		375		380	
Trp Pro Asp Arg Lys Val Arg Ile Phe Thr Tyr Leu Ile Gly Arg Glu						
	385		390		395	400
Ala Ala Phe Ala Asp Asn Leu Lys Trp Met Ala Cys Ala Asn Lys Gly						

	405		410		415
Phe Phe Thr Gln Ile Ser Thr Leu Ala Asp Val Gln Glu Asn Val Met					
	420		425		430
Glu Tyr Leu His Val Leu Ser Arg Pro Lys Val Ile Asp Gln Glu His					
	435		440		445
Asp Val Val Trp Thr Glu Ala Tyr Ile Asp Ser Thr Leu Thr Asp Asp					
	450		455		460
Gln Gly Pro Val Leu Met Thr Thr Val Ala Met Pro Val Phe Ser Lys					
	465		470		475
Gln Asn Glu Thr Arg Ser Lys Gly Ile Leu Leu Gly Val Val Gly Thr					
	485		490		495
Asp Val Pro Val Lys Glu Leu Leu Lys Thr Ile Pro Lys Tyr Lys Leu					
	500		505		510
Gly Ile His Gly Tyr Ala Phe Ala Ile Thr Asn Asn Gly Tyr Ile Leu					
	515		520		525
Thr His Pro Glu Leu Arg Leu Leu Tyr Glu Glu Gly Lys Lys Arg Arg					
	530		535		540
Lys Pro Asn Tyr Ser Ser Val Asp Leu Ser Glu Val Glu Trp Glu Asp					
	545		550		555
Arg Asp Asp Val Leu Arg Asn Ala Met Val Asn Arg Lys Thr Gly Lys					
	565		570		575
Phe Ser Met Glu Val Lys Lys Thr Val Asp Lys Gly Lys Arg Val Leu					
	580		585		590
Val Met Thr Asn Asp Tyr Tyr Tyr Thr Asp Ile Lys Gly Thr Pro Phe					
	595		600		605
Ser Leu Gly Val Ala Leu Ser Arg Gly His Gly Lys Tyr Phe Phe Arg					
	610		615		620
Gly Asn Val Thr Ile Glu Glu Gly Leu His Asp Leu Glu His Pro Asp					
	625		630		635
Val Ser Leu Ala Asp Glu Trp Ser Tyr Cys Asn Thr Asp Leu His Pro					
	645		650		655
Glu His Arg His Leu Ser Gln Leu Glu Ala Ile Lys Leu Tyr Leu Lys					

660	665	670
Gly Lys Glu Pro Leu Leu Gln Cys Asp Lys Glu Leu Ile Gln Glu Val		
675	680	685
Leu Phe Asp Ala Val Val Ser Ala Pro Ile Glu Ala Tyr Trp Thr Ser		
690	695	700
Leu Ala Leu Asn Lys Ser Glu Asn Ser Asp Lys Gly Val Glu Val Ala		
705	710	715
Phe Leu Gly Thr Arg Thr Gly Leu Ser Arg Ile Asn Leu Phe Val Gly		
725	730	735
Ala Glu Gln Leu Thr Asn Gln Asp Phe Leu Lys Ala Gly Asp Lys Glu		
740	745	750
Asn Ile Phe Asn Ala Asp His Phe Pro Leu Trp Tyr Arg Arg Ala Ala		
755	760	765
Glu Gln Ile Pro Gly Ser Phe Val Tyr Ser Ile Pro Phe Ser Thr Gly		
770	775	780
Pro Val Asn Lys Ser Asn Val Val Thr Ala Ser Thr Ser Ile Gln Leu		
785	790	795
Leu Asp Glu Arg Lys Ser Pro Val Val Ala Ala Val Gly Ile Gln Met		
805	810	815
Lys Leu Glu Phe Phe Gln Arg Lys Phe Trp Thr Ala Ser Arg Gln Cys		
820	825	830
Ala Ser Leu Asp Gly Lys Cys Ser Ile Ser Cys Asp Asp Glu Thr Val		
835	840	845
Asn Cys Tyr Leu Ile Asp Asn Asn Gly Phe Ile Leu Val Ser Glu Asp		
850	855	860
Tyr Thr Gln Thr Gly Asp Phe Phe Gly Glu Ile Glu Gly Ala Val Met		
865	870	875
Asn Lys Leu Leu Thr Met Gly Ser Phe Lys Arg Ile Thr Leu Tyr Asp		
885	890	895
Tyr Gln Ala Met Cys Arg Ala Asn Lys Glu Ser Ser Asp Gly Ala His		
900	905	910
Gly Leu Leu Asp Pro Tyr Asn Ala Phe Leu Ser Ala Val Lys Trp Ile		

915	920	925
Met Thr Glu Leu Val	Leu Phe Leu Val Glu Phe Asn Leu Cys Ser Trp	
930	935	940
Trp His Ser Asp Met Thr Ala Lys Ala Gln Lys Leu Lys Gln Thr Leu		
945	950	955 960
Glu Pro Cys Asp Thr Glu Tyr Pro Ala Phe Val Ser Glu Arg Thr Ile		
965	970	975
Lys Glu Thr Thr Gly Asn Ile Ala Cys Glu Asp Cys Ser Lys Ser Phe		
980	985	990
Val Ile Gln Gln Ile Pro Ser Ser Asn Leu Phe Met Val Val Val Asp		
995	1000	1005
Ser Ser Cys Leu Cys Glu Ser Val Ala Pro Ile Thr Met Ala Pro Ile		
1010	1015	1020
Glu Ile Arg Tyr Asn Glu Ser Leu Lys Cys Glu Arg Leu Lys Ala Gln		
1025	1030	1035 1040
Lys Ile Arg Arg Arg Pro Glu Ser Cys His Gly Phe His Pro Glu Glu		
1045	1050	1055
Asn Ala Arg Glu Cys Gly Gly Ala Pro Ser Leu Gln Ala Gln Thr Val		
1060	1065	1070
Leu Leu Leu Leu Pro Leu Leu Leu Met Leu Phe Ser Arg		
1075	1080	1085

<210> 23

<211> 1115

<212> PRT

<213> Homo sapiens

<400> 23

Met Ala Val Pro Ala Arg Thr Cys Gly Ala Ser Arg Pro Gly Pro Ala		
1	5	10 15
Arg Thr Ala Arg Pro Trp Pro Gly Cys Gly Pro His Pro Gly Pro Gly		
20	25	30
Thr Arg Arg Pro Thr Ser Gly Pro Pro Arg Pro Leu Trp Leu Leu Leu		
35	40	45

Pro	Leu	Leu	Pro	Leu	Leu	Ala	Ala	Pro	Gly	Ala	Ser	Ala	Tyr	Ser	Phe	50	55	60	
Pro	Gln	Gln	His	Thr	Met	Gln	His	Trp	Ala	Arg	Arg	Leu	Glu	Gln	Glu	65	70	75	80
Val	Asp	Gly	Val	Met	Arg	Ile	Phe	Gly	Gly	Val	Gln	Gln	Leu	Arg	Glu	85	90	95	
Ile	Tyr	Lys	Asp	Asn	Arg	Asn	Leu	Phe	Glu	Val	Gln	Glu	Asn	Glu	Pro	100	105	110	
Gln	Lys	Leu	Val	Glu	Lys	Val	Ala	Gly	Asp	Ile	Glu	Ser	Leu	Leu	Asp	115	120	125	
Arg	Lys	Val	Gln	Ala	Leu	Lys	Arg	Leu	Ala	Asp	Ala	Ala	Glu	Asn	Phe	130	135	140	
Gln	Lys	Ala	His	Arg	Trp	Gln	Asp	Asn	Ile	Lys	Glu	Glu	Asp	Ile	Val	145	150	155	160
Tyr	Tyr	Asp	Ala	Lys	Ala	Asp	Ala	Glu	Leu	Asp	Asp	Pro	Glu	Ser	Glu	165	170	175	
Asp	Val	Glu	Arg	Gly	Ser	Lys	Ala	Ser	Thr	Leu	Arg	Leu	Asp	Phe	Ile	180	185	190	
Glu	Asp	Pro	Asn	Phe	Lys	Asn	Lys	Val	Asn	Tyr	Ser	Tyr	Ala	Ala	Val	195	200	205	
Gln	Ile	Pro	Thr	Asp	Ile	Tyr	Lys	Gly	Ser	Thr	Val	Ile	Leu	Asn	Glu	210	215	220	
Leu	Asn	Trp	Thr	Glu	Ala	Leu	Glu	Asn	Val	Phe	Met	Glu	Asn	Arg	Arg	225	230	235	240
Gln	Asp	Pro	Thr	Leu	Leu	Trp	Gln	Val	Phe	Gly	Ser	Ala	Thr	Gly	Val	245	250	255	
Thr	Arg	Tyr	Tyr	Pro	Ala	Thr	Pro	Trp	Arg	Ala	Pro	Lys	Lys	Ile	Asp	260	265	270	
Leu	Tyr	Asp	Val	Arg	Arg	Arg	Pro	Trp	Tyr	Ile	Gln	Gly	Ala	Ser	Ser	275	280	285	
Pro	Lys	Asp	Met	Val	Ile	Ile	Val	Asp	Val	Ser	Gly	Ser	Val	Ser	Gly	290	295	300	

Leu Thr Leu Lys Leu Met Lys Thr Ser Val Cys Glu Met Leu Asp Thr			
305	310	315	320
Leu Ser Asp Asp Asp Tyr Val Asn Val Ala Ser Phe Asn Glu Lys Ala			
	325	330	335
Gln Pro Val Ser Cys Phe Thr His Leu Val Gln Ala Asn Val Arg Asn			
	340	345	350
Lys Lys Val Phe Lys Glu Ala Val Gln Gly Met Val Ala Lys Gly Thr			
	355	360	365
Thr Gly Tyr Lys Ala Gly Phe Glu Tyr Ala Phe Asp Gln Leu Gln Asn			
	370	375	380
Ser Asn Ile Thr Arg Ala Asn Cys Asn Lys Met Ile Met Met Phe Thr			
385	390	395	400
Asp Gly Gly Glu Asp Arg Val Gln Asp Val Phe Glu Lys Tyr Asn Trp			
	405	410	415
Pro Asn Arg Thr Val Arg Val Phe Thr Phe Ser Val Gly Gln His Asn			
	420	425	430
Tyr Asp Val Thr Pro Leu Gln Trp Met Ala Cys Ala Asn Lys Gly Tyr			
	435	440	445
Tyr Phe Glu Ile Pro Ser Ile Gly Ala Ile Arg Ile Asn Thr Gln Glu			
	450	455	460
Tyr Leu Asp Val Leu Gly Arg Pro Met Val Leu Ala Gly Lys Glu Ala			
465	470	475	480
Lys Gln Val Gln Trp Thr Asn Val Tyr Glu Asp Ala Leu Gly Leu Gly			
	485	490	495
Leu Val Val Thr Gly Thr Leu Pro Val Phe Asn Leu Thr Gln Asp Gly			
	500	505	510
Pro Gly Glu Lys Lys Asn Gln Leu Ile Leu Gly Val Met Gly Ile Asp			
	515	520	525
Val Ala Leu Asn Asp Ile Lys Arg Leu Thr Pro Asn Tyr Thr Leu Gly			
	530	535	540
Ala Asn Gly Tyr Val Phe Ala Ile Asp Leu Asn Gly Tyr Val Leu Leu			
545	550	555	560

His	Pro	Asn	Leu	Lys	Pro	Gln	Thr	Thr	Asn	Phe	Arg	Glu	Pro	Val	Thr	565	570	575
Leu	Asp	Phe	Leu	Asp	Ala	Glu	Leu	Glu	Asp	Glu	Asn	Lys	Glu	Glu	Ile	580	585	590
Arg	Arg	Ser	Met	Ile	Asp	Gly	Asn	Lys	Gly	His	Lys	Gln	Ile	Arg	Thr	595	600	605
Leu	Val	Lys	Ser	Leu	Asp	Glu	Arg	Tyr	Ile	Asp	Glu	Val	Thr	Arg	Asn	610	615	620
Tyr	Thr	Trp	Val	Pro	Ile	Arg	Ser	Thr	Asn	Tyr	Ser	Leu	Gly	Leu	Val	625	630	635
Leu	Pro	Pro	Tyr	Ser	Thr	Phe	Tyr	Leu	Gln	Ala	Asn	Leu	Ser	Asp	Gln	645	650	655
Ile	Leu	Gln	Val	Lys	Tyr	Phe	Glu	Phe	Leu	Leu	Pro	Ser	Ser	Phe	Glu	660	665	670
Ser	Glu	Gly	His	Val	Phe	Ile	Ala	Pro	Arg	Glu	Tyr	Cys	Lys	Asp	Leu	675	680	685
Asn	Ala	Ser	Asp	Asn	Asn	Thr	Glu	Phe	Leu	Lys	Asn	Phe	Ile	Glu	Leu	690	695	700
Met	Glu	Lys	Val	Thr	Pro	Asp	Ser	Lys	Gln	Cys	Asn	Asn	Phe	Leu	Leu	705	710	715
His	Asn	Leu	Ile	Leu	Asp	Thr	Gly	Ile	Thr	Gln	Gln	Leu	Val	Glu	Arg	725	730	735
Val	Trp	Arg	Asp	Gln	Asp	Leu	Asn	Thr	Tyr	Ser	Leu	Leu	Ala	Val	Phe	740	745	750
Ala	Ala	Thr	Asp	Gly	Gly	Ile	Thr	Arg	Val	Phe	Pro	Asn	Lys	Ala	Ala	755	760	765
Glu	Asp	Trp	Thr	Glu	Asn	Pro	Glu	Pro	Phe	Asn	Ala	Ser	Phe	Tyr	Arg	770	775	780
Arg	Ser	Leu	Asp	Asn	His	Gly	Tyr	Val	Phe	Lys	Pro	Pro	His	Gln	Asp	785	790	795
Ala	Leu	Leu	Arg	Pro	Leu	Glu	Leu	Glu	Asn	Asp	Thr	Val	Gly	Ile	Leu	805	810	815

Val Ser Thr Ala	Val Glu Leu Ser Leu Gly Arg Arg Thr Leu Arg Pro
820	825 830
Ala Val Val Gly Val Lys Leu Asp Leu Glu Ala Trp Ala Glu Lys Phe	
835	840 845
Lys Val Leu Ala Ser Asn Arg Thr His Gln Asp Gln Pro Gln Lys Cys	
850	855 860
Gly Pro Asn Ser His Cys Glu Met Asp Cys Glu Val Asn Asn Glu Asp	
865	870 875 880
Leu Leu Cys Val Leu Ile Asp Asp Gly Gly Phe Leu Val Leu Ser Asn	
885	890 895
Gln Asn His Gln Trp Asp Gln Val Gly Arg Phe Phe Ser Glu Val Asp	
900	905 910
Ala Asn Leu Met Leu Ala Leu Tyr Asn Asn Ser Phe Tyr Thr Arg Lys	
915	920 925
Glu Ser Tyr Asp Tyr Gln Ala Ala Cys Ala Pro Gln Pro Pro Gly Asn	
930	935 940
Leu Gly Ala Ala Pro Arg Gly Val Phe Val Pro Thr Val Ala Asp Phe	
945	950 955 960
Leu Asn Leu Ala Trp Trp Thr Ser Ala Ala Ala Trp Ser Leu Phe Gln	
965	970 975
Gln Leu Leu Tyr Gly Leu Ile Tyr His Ser Trp Phe Gln Ala Asp Pro	
980	985 990
Ala Glu Ala Glu Gly Ser Pro Glu Thr Arg Glu Ser Ser Cys Val Met	
995	1000 1005
Lys Gln Thr Gln Tyr Tyr Phe Gly Ser Val Asn Ala Ser Tyr Asn Ala	
1010	1015 1020
Ile Ile Asp Cys Gly Asn Cys Ser Arg Leu Phe His Ala Gln Arg Leu	
1025	1030 1035 1040
Thr Asn Thr Asn Leu Leu Phe Val Val Ala Glu Lys Pro Leu Cys Ser	
1045	1050 1055
Gln Cys Glu Ala Gly Arg Leu Leu Gln Lys Glu Thr His Cys Pro Ala	
1060	1065 1070

Asp Gly Pro Glu Gln Cys Glu Leu Val Gln Arg Pro Arg Tyr Arg Arg
 1075 1080 1085

Gly Pro His Ile Cys Phe Asp Tyr Asn Ala Thr Glu Asp Thr Ser Asp
 1090 1095 1100

Cys Gly Arg Gly Ala His His His His His His
 1105 1110 1115

<210> 24

<211> 1077

<212> PRT

<213> Mus musculus

<400> 24

Met Ala Gly Pro Gly Ser Leu Cys Cys Ala Ser Arg Gly Ala Ser Ala
 1 5 10 15

Leu Leu Ala Thr Ala Leu Leu Tyr Ala Ala Leu Gly Asp Val Val Arg
 20 25 30

Ser Glu Gln Gln Ile Pro Leu Ser Val Val Lys Leu Trp Ala Ser Ala
 35 40 45

Phe Gly Gly Glu Ile Lys Ser Ile Ala Ala Lys Tyr Ser Gly Ser Gln
 50 55 60

Leu Leu Gln Lys Lys Tyr Lys Glu Tyr Glu Lys Asp Val Ala Ile Glu
 65 70 75 80

Glu Ile Asp Gly Leu Gln Leu Val Lys Lys Leu Ala Lys Ile Met Glu
 85 90 95

Glu Met Phe His Lys Lys Ser Glu Ala Val Arg Arg Leu Val Glu Ala
 100 105 110

Ala Glu Glu Ala His Leu Lys His Glu Phe Asp Ala Asp Leu Gln Tyr
 115 120 125

Glu Tyr Phe Asn Ala Val Leu Ile Asn Glu Arg Asp Lys Asp Gly Asn
 130 135 140

Phe Leu Glu Leu Gly Lys Glu Phe Ile Leu Ala Pro Asn Asp His Phe
 145 150 155 160

Asn Asn Leu Pro Val Asn Ile Ser Leu Ser Asp Val Gln Val Pro Thr
 165 170 175

Asn Met Tyr	Asn Lys Asp	Pro Ala Ile	Val Asn Gly	Val Tyr Trp Ser
180		185		190
Glu Ser Leu	Asn Lys Val	Phe Val Asp	Asn Phe Asp	Arg Asp Pro Ser
195		200		205
Leu Ile Trp	Gln Tyr Phe	Gly Ser Ala	Lys Gly Phe	Phe Arg Gln Tyr
210		215		220
Pro Gly Ile	Lys Trp Glu	Pro Asp Glu	Asn Gly Val	Ile Ala Phe Asp
225		230		235
Cys Arg Asn	Arg Lys Trp	Tyr Ile Gln	Ala Ala Thr	Ser Pro Lys Asp
	245		250	255
Val Val Ile	Leu Val Asp	Val Ser Gly	Ser Met Lys	Gly Leu Arg Leu
	260		265	270
Thr Ile Ala	Lys Gln Thr	Val Ser Ser	Ile Leu Asp	Thr Leu Gly Asp
	275		280	285
Asp Asp Phe	Phe Asn Ile	Ile Thr Tyr	Asn Glu Glu	Leu His Tyr Val
290		295		300
Glu Pro Cys	Leu Asn Gly	Thr Leu Val	Gln Ala Asp	Arg Thr Asn Lys
305		310		315
Glu His Phe	Arg Glu His	Leu Asp Lys	Leu Phe Ala	Lys Gly Ile Gly
	325		330	335
Met Leu Asp	Ile Ala Leu	Asn Glu Ala	Phe Asn Ile	Leu Ser Asp Phe
	340		345	350
Asn His Thr	Gly Gln Gly	Ser Ile Cys	Ser Gln Ala	Ile Met Leu Ile
	355		360	365
Thr Asp Gly	Ala Val Asp	Thr Tyr Asp	Thr Ile Phe	Ala Lys Tyr Asn
	370		375	380
Trp Pro Asp	Arg Lys Val	Arg Ile Phe	Thr Tyr Leu	Ile Gly Arg Glu
385		390		395
Ala Ala Phe	Ala Asp Asn	Leu Lys Trp	Met Ala Cys	Ala Asn Lys Gly
	405		410	415
Phe Phe Thr	Gln Ile Ser	Thr Leu Ala	Asp Val Gln	Glu Asn Val Met
	420		425	430

Glu Tyr Leu His Val Leu Ser Arg Pro Lys Val Ile Asp Gln Glu His
 435 440 445
 Asp Val Val Trp Thr Glu Ala Tyr Ile Asp Ser Thr Leu Pro Gln Ala
 450 455 460
 Gln Lys Leu Ala Asp Asp Gln Gly Leu Val Leu Met Thr Thr Val Ala
 465 470 475 480
 Met Pro Val Phe Ser Lys Gln Asn Glu Thr Arg Ser Lys Gly Ile Leu
 485 490 495
 Leu Gly Val Val Gly Thr Asp Val Pro Val Lys Glu Leu Leu Lys Thr
 500 505 510
 Ile Pro Lys Tyr Lys Leu Gly Ile His Gly Tyr Ala Phe Ala Ile Thr
 515 520 525
 Asn Asn Gly Tyr Ile Leu Thr His Pro Glu Leu Arg Pro Leu Tyr Glu
 530 535 540
 Glu Gly Lys Lys Arg Arg Lys Pro Asn Tyr Ser Ser Val Asp Leu Ser
 545 550 555 560
 Glu Val Glu Trp Glu Asp Arg Asp Asp Val Leu Arg Asn Ala Met Val
 565 570 575
 Asn Arg Lys Thr Gly Lys Phe Ser Met Glu Val Lys Lys Thr Val Asp
 580 585 590
 Lys Gly Lys Arg Val Leu Val Met Thr Asn Asp Tyr Tyr Tyr Thr Asp
 595 600 605
 Ile Lys Gly Thr Pro Phe Ser Leu Gly Val Ala Leu Ser Arg Gly His
 610 615 620
 Gly Lys Tyr Phe Phe Arg Gly Asn Val Thr Ile Glu Glu Gly Leu His
 625 630 635 640
 Asp Leu Glu His Pro Asp Val Ser Leu Ala Asp Glu Trp Ser Tyr Cys
 645 650 655
 Asn Thr Asp Leu His Pro Glu His Arg His Leu Ser Gln Leu Glu Ala
 660 665 670
 Ile Lys Leu Tyr Leu Lys Gly Lys Glu Pro Leu Leu Gln Cys Asp Lys
 675 680 685

Glu	Leu	Ile	Gln	Glu	Val	Leu	Phe	Asp	Ala	Val	Val	Ser	Ala	Pro	Ile	690	695	700	
Glu	Ala	Tyr	Trp	Thr	Ser	Leu	Ala	Leu	Asn	Lys	Ser	Glu	Asn	Ser	Asp	705	710	715	720
Lys	Gly	Val	Glu	Val	Ala	Phe	Leu	Gly	Thr	Arg	Thr	Gly	Leu	Ser	Arg	725	730	735	
Ile	Asn	Leu	Phe	Val	Gly	Ala	Glu	Gln	Leu	Thr	Asn	Gln	Asp	Phe	Leu	740	745	750	
Lys	Ala	Gly	Asp	Lys	Glu	Asn	Ile	Phe	Asn	Ala	Asp	His	Phe	Pro	Leu	755	760	765	
Trp	Tyr	Arg	Arg	Ala	Ala	Glu	Gln	Ile	Ala	Gly	Ser	Phe	Val	Tyr	Ser	770	775	780	
Ile	Pro	Phe	Ser	Thr	Gly	Thr	Val	Asn	Lys	Ser	Asn	Val	Val	Thr	Ala	785	790	795	800
Ser	Thr	Ser	Ile	Gln	Leu	Leu	Asp	Glu	Arg	Lys	Ser	Pro	Val	Val	Ala	805	810	815	
Ala	Val	Gly	Ile	Gln	Met	Lys	Leu	Glu	Phe	Phe	Gln	Arg	Lys	Phe	Trp	820	825	830	
Thr	Ala	Ser	Arg	Gln	Cys	Ala	Ser	Leu	Asp	Gly	Lys	Cys	Ser	Ile	Ser	835	840	845	
Cys	Asp	Asp	Glu	Thr	Val	Asn	Cys	Tyr	Leu	Ile	Asp	Asn	Asn	Gly	Phe	850	855	860	
Ile	Leu	Val	Ser	Glu	Asp	Tyr	Thr	Gln	Thr	Gly	Asp	Phe	Phe	Gly	Glu	865	870	875	880
Val	Glu	Gly	Ala	Val	Met	Asn	Lys	Leu	Leu	Thr	Met	Gly	Ser	Phe	Lys	885	890	895	
Arg	Ile	Thr	Leu	Tyr	Asp	Tyr	Gln	Ala	Met	Cys	Arg	Ala	Asn	Lys	Glu	900	905	910	
Ser	Ser	Asp	Ser	Ala	His	Gly	Leu	Leu	Asp	Pro	Tyr	Lys	Ala	Phe	Leu	915	920	925	
Ser	Ala	Ala	Lys	Trp	Ile	Met	Thr	Glu	Leu	Val	Leu	Phe	Leu	Val	Glu	930	935	940	

Phe Asn Leu Cys Ser Trp Trp His Ser Asp Met Thr Ala Lys Ala Gln
 945 950 955 960

Lys Leu Lys Gln Thr Leu Glu Pro Cys Asp Thr Glu Tyr Pro Ala Phe
 965 970 975

Val Ser Glu Arg Thr Ile Lys Glu Thr Thr Gly Asn Ile Ala Cys Glu
 980 985 990

Asp Cys Ser Lys Ser Phe Val Ile Gln Gln Ile Pro Ser Ser Asn Leu
 995 1000 1005

Phe Met Val Val Val Asp Ser Ser Cys Leu Cys Glu Ser Val Ala Pro
 1010 1015 1020

Ile Thr Met Ala Pro Ile Glu Ile Arg Tyr Asn Glu Ser Leu Lys Cys
 1025 1030 1035 1040

Glu Arg Leu Lys Ala Gln Lys Ile Arg Arg Arg Pro Glu Ser Cys His
 1045 1050 1055

Gly Phe His Pro Glu Glu Asn Ala Arg Glu Cys Gly Gly Ala Ser His
 1060 1065 1070

His His His His His
 1075

<210> 25
 <211> 24
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: priner

<400> 25
 tcgccaccat ggcggtgccg gctc

24

<210> 26
 <211> 49
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: priner

<400> 26
tcggaattcc tcagtgatgg tgatggtgat gggccccgcg gccacagtc 49

<210> 27
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: priner

<400> 27
tcgccaccat ggccgggccc ggc 23

<210> 28
<211> 43
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: priner

<400> 28
tctcagtgat ggtgatggtg atgcgatgca cccccacact etc 43

<210> 29
<211> 3842
<212> DNA
<213> Sus scrofa

<400> 29
ggggattgat cttcgatcgc gaagatggct gctggctgcc tgctggcctt gactctgaca 60
cttttccaat ctttgctgat cggtcctca tcgcaggagc cggtcccgtc ggccgtcact 120
atcaagtcac gggaggataa aatgcaagaa gaccttgtca ccctggcaaa aacagcaagt 180
ggagtcaatc agcttgctga tatttatgaa aaataccaag atttgtatac tgtggaacca 240
aataatgcac gccagctggt ggaaattgca gccagggata ttgagaaact tctgagcaac 300
agatctaaag ccctggtgcg cctagctttg gaagcagaga aggttcaagc agcccaccag 360
tgagagagagg attttgcaag caatgaagtt gtctactaca atgcaaagga tgatctcgat 420
cctgaaaaaa atgacagtga gccaggcagc cagaggataa aacctgtttt tattgatgat 480
gctaattttg ggcgacagat atcttatcag catgcagcag tccatattcc caccgacatc 540
tatgagggct caacaattgt gttaaattgaa ctgaactgga caagtgcctt agatgaagtt 600
ttcaagaaaa atcgagagga agatccctca ttattgtggc aggtgttttg cagtgccaca 660
ggcctggccc ggtattatcc agcttctcca tgggttgata acagtagaac tccaaacaag 720
attgaccttt atgatgtacg aaggagacca tggtagatcc aaggagctgc atctcctaaa 780

gatatgctta	ttctggtcga	cgtgagtgga	agtgttagtg	gtttgacgct	taaactgac	840
cgaacatctg	tctctgaaat	gttggaacc	ctctcagatg	acgattttgt	gaatgtagct	900
tcattttaaca	gcaatgcccc	ggatgtaagc	tgttttcaac	accttgtcca	agcaaatgta	960
agaaataaga	aagtgtctga	agatgcagtt	aataatatca	cagcaaaagg	aatcacagat	1020
tacaagaagg	gcttttagttt	tgcttttgaa	caactgctta	attataacgt	ttctagagcc	1080
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Lys Thr Ala Ser Gly Val Asn Gln Leu Val Asp Ile Tyr Glu Lys Tyr
50 55 60

Gln Asp Leu Tyr Thr Val Glu Pro Asn Asn Ala Arg Gln Leu Val Glu
65 70 75 80

Ile Ala Ala Arg Asp Ile Glu Lys Leu Leu Ser Asn Arg Ser Lys Ala
85 90 95

Leu Val Arg Leu Ala Leu Glu Ala Glu Lys Val Gln Ala Ala His Gln
100 105 110

Trp Arg Glu Asp Phe Ala Ser Asn Glu Val Val Tyr Tyr Asn Ala Lys
115 120 125

Asp Asp Leu Asp Pro Glu Lys Asn Asp Ser Glu Pro Gly Ser Gln Arg
130 135 140

Ile Lys Pro Val Phe Ile Asp Asp Ala Asn Phe Gly Arg Gln Ile Ser
145 150 155 160

Tyr Gln His Ala Ala Val His Ile Pro Thr Asp Ile Tyr Glu Gly Ser
165 170 175

Thr Ile Val Leu Asn Glu Leu Asn Trp Thr Ser Ala Leu Asp Glu Val
180 185 190

Phe Lys Lys Asn Arg Glu Glu Asp Pro Ser Leu Leu Trp Gln Val Phe
195 200 205

Gly Ser Ala Thr Gly Leu Ala Arg Tyr Tyr Pro Ala Ser Pro Trp Val
210 215 220

Asp Asn Ser Arg Thr Pro Asn Lys Ile Asp Leu Tyr Asp Val Arg Arg
225 230 235 240

Arg Pro Trp Tyr Ile Gln Gly Ala Ala Ser Pro Lys Asp Met Leu Ile
245 250 255

Leu Val Asp Val Ser Gly Ser Val Ser Gly Leu Thr Leu Lys Leu Ile
 260 265 270
 Arg Thr Ser Val Ser Glu Met Leu Glu Thr Leu Ser Asp Asp Asp Phe
 275 280 285
 Val Asn Val Ala Ser Phe Asn Ser Asn Ala Gln Asp Val Ser Cys Phe
 290 295 300
 Gln His Leu Val Gln Ala Asn Val Arg Asn Lys Lys Val Leu Lys Asp
 305 310 315 320
 Ala Val Asn Asn Ile Thr Ala Lys Gly Ile Thr Asp Tyr Lys Lys Gly
 325 330 335
 Phe Ser Phe Ala Phe Glu Gln Leu Leu Asn Tyr Asn Val Ser Arg Ala
 340 345 350
 Asn Cys Asn Lys Ile Ile Met Leu Phe Thr Asp Gly Gly Glu Glu Arg
 355 360 365
 Ala Gln Glu Ile Phe Ala Lys Tyr Asn Lys Asp Lys Lys Val Arg Val
 370 375 380
 Phe Thr Phe Ser Val Gly Gln His Asn Tyr Asp Arg Gly Pro Ile Gln
 385 390 395 400
 Trp Met Ala Cys Glu Asn Lys Gly Tyr Tyr Tyr Glu Ile Pro Ser Ile
 405 410 415
 Gly Ala Ile Arg Ile Asn Thr Gln Glu Tyr Leu Asp Val Leu Gly Arg
 420 425 430
 Pro Met Val Leu Ala Gly Asp Lys Ala Lys Gln Val Gln Trp Thr Asn
 435 440 445
 Val Tyr Leu Asp Ala Leu Glu Leu Gly Leu Val Ile Thr Gly Thr Leu
 450 455 460
 Pro Val Phe Asn Ile Thr Gly Gln Asn Glu Asn Lys Thr Asn Leu Lys
 465 470 475 480
 Asn Gln Leu Ile Leu Gly Val Met Gly Val Asp Val Ser Leu Glu Asp
 485 490 495
 Ile Lys Arg Leu Thr Pro Arg Phe Thr Leu Cys Pro Asn Gly Tyr Tyr
 500 505 510

Phe Ala Ile Asp Pro Asn Gly Tyr Val Leu Leu His Pro Asn Leu Gln
515 520 525
Pro Lys Asn Pro Lys Ser Gln Glu Pro Val Thr Leu Asp Phe Leu Asp
530 535 540
Ala Glu Leu Glu Asn Asp Ile Lys Val Glu Ile Arg Asn Lys Met Ile
545 550 555 560
Asp Gly Glu Ser Gly Glu Lys Thr Phe Arg Thr Leu Val Lys Ser Gln
565 570 575
Asp Glu Arg Tyr Ile Asp Lys Gly Asn Arg Thr Tyr Thr Trp Thr Pro
580 585 590
Val Asn Gly Thr Asp Tyr Ser Leu Ala Leu Val Leu Pro Thr Tyr Ser
595 600 605
Phe Tyr Tyr Ile Lys Ala Lys Ile Glu Glu Thr Ile Thr Gln Ala Arg
610 615 620
Ser Lys Lys Gly Lys Met Lys Asp Ser Glu Thr Leu Lys Pro Asp Asn
625 630 635 640
Phe Glu Glu Ser Gly Tyr Thr Phe Ile Ala Pro Arg Asp Tyr Cys Asn
645 650 655
Asp Leu Lys Ile Ser Asp Asn Asn Thr Glu Phe Leu Leu Asn Phe Asn
660 665 670
Glu Phe Ile Asp Arg Lys Thr Pro Asn Asn Pro Ser Cys Asn Thr Asp
675 680 685
Leu Ile Asn Arg Val Leu Leu Asp Ala Gly Phe Thr Asn Glu Leu Val
690 695 700
Gln Asn Tyr Trp Ser Lys Gln Lys Asn Ile Lys Gly Val Lys Ala Arg
705 710 715 720
Phe Val Val Thr Asp Gly Gly Ile Thr Arg Val Tyr Pro Lys Glu Ala
725 730 735
Gly Glu Asn Trp Gln Glu Asn Pro Glu Thr Tyr Glu Asp Ser Phe Tyr
740 745 750
Lys Arg Ser Leu Asp Asn Asp Asn Tyr Val Phe Thr Ala Pro Tyr Phe
755 760 765

Asn Lys Ser Gly Pro Gly Ala Tyr Glu Ser Gly Ile Met Val Ser Lys
 770 775 780

Ala Val Glu Ile Tyr Ile Gln Gly Lys Leu Leu Lys Pro Ala Val Val
 785 790 795 800

Gly Ile Lys Ile Asp Val Asn Ser Trp Ile Glu Asn Phe Thr Lys Thr
 805 810 815

Ser Ile Arg Asp Pro Cys Ala Gly Pro Val Cys Asp Cys Lys Arg Asn
 820 825 830

Ser Asp Val Met Asp Cys Val Ile Leu Asp Asp Gly Gly Phe Leu Leu
 835 840 845

Met Ala Asn His Asp Asp Tyr Thr Asn Gln Ile Gly Arg Phe Phe Gly
 850 855 860

Glu Ile Asp Pro Ser Leu Met Arg His Leu Val Asn Ile Ser Val Tyr
 865 870 875 880

Ala Phe Asn Lys Ser Tyr Asp Tyr Gln Ser Val Cys Glu Pro Gly Ala
 885 890 895

Ala Pro Lys Gln Gly Ala Gly His Arg Ser Ala Tyr Val Pro Ser Ile
 900 905 910

Ala Asp Ile Leu His Ile Gly Trp Trp Ala Thr Ala Ala Ala Trp Ser
 915 920 925

Ile Leu Gln Gln Phe Leu Leu Ser Leu Thr Phe Pro Arg Leu Leu Glu
 930 935 940

Ala Val Glu Met Glu Asp Asp Asp Phe Thr Ala Ser Leu Ser Lys Gln
 945 950 955 960

Ser Cys Ile Thr Glu Gln Thr Gln Tyr Phe Phe Asp Asn Asp Ser Lys
 965 970 975

Ser Phe Ser Gly Val Leu Asp Cys Gly Asn Cys Ser Arg Ile Phe His
 980 985 990

Val Glu Lys Leu Met Asn Thr Asn Leu Ile Phe Ile Met Val Glu Ser
 995 1000 1005

Lys Gly Thr Cys Pro Cys Asp Thr Arg Leu Leu Ile Gln Ala Glu Gln
 1010 1015 1020

Thr Ser Asp Gly Pro Asp Pro Cys Asp Met Val Lys Gln Pro Arg Tyr
 1025 1030 1035 1040

Arg Lys Gly Pro Asp Val Cys Phe Asp Asn Asn Ala Leu Glu Asp Tyr
 1045 1050 1055

Thr Asp Cys Gly Gly Val Ser Gly Leu Asn Pro Ser Leu Trp Ser Ile
 1060 1065 1070

Phe Gly Ile Gln Cys Val Leu Leu Trp Leu Leu Ser Gly Ser Arg His
 1075 1080 1085

Tyr Gln Leu
 1090

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 <212> PRT
 <213> Sus scrofa

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 Met Ala Ala Gly Cys Leu Leu Ala Leu Thr Leu Thr Leu Phe Gln Ser
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Leu Leu Ile Gly Pro Ser Ser Gln Glu Pro Phe Pro Ser Ala Val Thr
 20 25 30

Ile Lys Ser Trp Val Asp Lys Met Gln Glu Asp Leu Val Thr Leu Ala
 35 40 45

Lys Thr Ala Ser Gly Val Asn Gln Leu Val Asp Ile Tyr Glu Lys Tyr
 50 55 60

Gln Asp Leu Tyr Thr Val Glu Pro Asn Asn Ala Arg Gln Leu Val Glu
 65 70 75 80

Ile Ala Ala Arg Asp Ile Glu Lys Leu Leu Ser Asn Arg Ser Lys Ala
 85 90 95

Leu Val Arg Leu Ala Leu Glu Ala Glu Lys Val Gln Ala Ala His Gln
 100 105 110

Trp Arg Glu Asp Phe Ala Ser Asn Glu Val Val Tyr Tyr Asn Ala Lys
 115 120 125

Asp Asp Leu Asp Pro Glu Lys Asn Asp Ser Glu Pro Gly Ser Gln Arg

130		135		140
Ile Lys Pro Val Phe	Ile Asp Asp Ala Asn Phe Gly Arg Gln Ile Ser			
145	150	155	160	
Tyr Gln His Ala Ala Val His Ile Pro Thr Asp Ile Tyr Glu Gly Ser				
	165	170	175	
Thr Ile Val Leu Asn Glu Leu Asn Trp Thr Ser Ala Leu Asp Glu Val				
	180	185	190	
Phe Lys Lys Asn Arg Glu Glu Asp Pro Ser Leu Leu Trp Gln Val Phe				
	195	200	205	
Gly Ser Ala Thr Gly Leu Ala Arg Tyr Tyr Pro Ala Ser Pro Trp Val				
	210	215	220	
Asp Asn Ser Arg Thr Pro Asn Lys Ile Asp Leu Tyr Asp Val Arg Arg				
	225	230	235	240
Arg Pro Trp Tyr Ile Gln Gly Ala Ala Ser Pro Lys Asp Met Leu Ile				
	245	250	255	
Leu Val Asp Val Ser Gly Ser Val Ser Gly Leu Thr Leu Lys Leu Ile				
	260	265	270	
Arg Thr Ser Val Ser Glu Met Leu Glu Thr Leu Ser Asp Asp Asp Phe				
	275	280	285	
Val Asn Val Ala Ser Phe Asn Ser Asn Ala Gln Asp Val Ser Cys Phe				
	290	295	300	
Gln His Leu Val Gln Ala Asn Val Arg Asn Lys Lys Val Leu Lys Asp				
	305	310	315	320
Ala Val Asn Asn Ile Thr Ala Lys Gly Ile Thr Asp Tyr Lys Lys Gly				
	325	330	335	
Phe Ser Phe Ala Phe Glu Gln Leu Leu Asn Tyr Asn Val Ser Arg Ala				
	340	345	350	
Asn Cys Asn Lys Ile Ile Met Leu Phe Thr Asp Gly Gly Glu Glu Arg				
	355	360	365	
Ala Gln Glu Ile Phe Ala Lys Tyr Asn Lys Asp Lys Lys Val Arg Val				
	370	375	380	
Phe Thr Phe Ser Val Gly Gln His Asn Tyr Asp Arg Gly Pro Ile Gln				

385		390		395		400
Trp Met Ala Cys Glu Asn Lys Gly Tyr Tyr Tyr Glu Ile Pro Ser Ile						
	405		410		415	
Gly Ala Ile Arg Ile Asn Thr Gln Glu Tyr Leu Asp Val Leu Gly Arg						
	420		425		430	
Pro Met Val Leu Ala Gly Asp Lys Ala Lys Gln Val Gln Trp Thr Asn						
	435		440		445	
Val Tyr Leu Asp Ala Leu Glu Leu Gly Leu Val Ile Thr Gly Thr Leu						
	450		455		460	
Pro Val Phe Asn Ile Thr Gly Gln Asn Glu Asn Lys Thr Asn Leu Lys						
	465		470		475	480
Asn Gln Leu Ile Leu Gly Val Met Gly Val Asp Val Ser Leu Glu Asp						
	485		490		495	
Ile Lys Arg Leu Thr Pro Arg Phe Thr Leu Cys Pro Asn Gly Tyr Tyr						
	500		505		510	
Phe Ala Ile Asp Pro Asn Gly Tyr Val Leu Leu His Pro Asn Leu Gln						
	515		520		525	
Pro Lys Asn Pro Lys Ser Gln Glu Pro Val Thr Leu Asp Phe Leu Asp						
	530		535		540	
Ala Glu Leu Glu Asn Asp Ile Lys Val Glu Ile Arg Asn Lys Met Ile						
	545		550		555	560
Asp Gly Glu Ser Gly Glu Lys Thr Phe Arg Thr Leu Val Lys Ser Gln						
	565		570		575	
Asp Glu Arg Tyr Ile Asp Lys Gly Asn Arg Thr Tyr Thr Trp Thr Pro						
	580		585		590	
Val Asn Gly Thr Asp Tyr Ser Leu Ala Leu Val Leu Pro Thr Tyr Ser						
	595		600		605	
Phe Tyr Tyr Ile Lys Ala Lys Ile Glu Glu Thr Ile Thr Gln Ala Arg						
	610		615		620	
Ser Lys Lys Gly Lys Met Lys Asp Ser Glu Thr Leu Lys Pro Asp Asn						
	625		630		635	640
Phe Glu Glu Ser Gly Tyr Thr Phe Ile Ala Pro Arg Asp Tyr Cys Asn						

645					650					655						
Asp	Leu	Lys	Ile	Ser	Asp	Asn	Asn	Thr	Glu	Phe	Leu	Leu	Asn	Phe	Asn	
660					665					670						
Glu	Phe	Ile	Asp	Arg	Lys	Thr	Pro	Asn	Asn	Pro	Ser	Cys	Asn	Thr	Asp	
675					680					685						
Leu	Ile	Asn	Arg	Val	Leu	Leu	Asp	Ala	Gly	Phe	Thr	Asn	Glu	Leu	Val	
690					695					700						
Gln	Asn	Tyr	Trp	Ser	Lys	Gln	Lys	Asn	Ile	Lys	Gly	Val	Lys	Ala	Arg	
705					710					715					720	
Phe	Val	Val	Thr	Asp	Gly	Gly	Ile	Thr	Arg	Val	Tyr	Pro	Lys	Glu	Ala	
725					730					735						
Gly	Glu	Asn	Trp	Gln	Glu	Asn	Pro	Glu	Thr	Tyr	Glu	Asp	Ser	Phe	Tyr	
740					745					750						
Lys	Arg	Ser	Leu	Asp	Asn	Asp	Asn	Tyr	Val	Phe	Thr	Ala	Pro	Tyr	Phe	
755					760					765						
Asn	Lys	Ser	Gly	Pro	Gly	Ala	Tyr	Glu	Ser	Gly	Ile	Met	Val	Ser	Lys	
770					775					780						
Ala	Val	Glu	Ile	Tyr	Ile	Gln	Gly	Lys	Leu	Leu	Lys	Pro	Ala	Val	Val	
785					790					795					800	
Gly	Ile	Lys	Ile	Asp	Val	Asn	Ser	Trp	Ile	Glu	Asn	Phe	Thr	Lys	Thr	
805					810					815						
Ser	Ile	Arg	Asp	Pro	Cys	Ala	Gly	Pro	Val	Cys	Asp	Cys	Lys	Arg	Asn	
820					825					830						
Ser	Asp	Val	Met	Asp	Cys	Val	Ile	Leu	Asp	Asp	Gly	Gly	Phe	Leu	Leu	
835					840					845						
Met	Ala	Asn	His	Asp	Asp	Tyr	Thr	Asn	Gln	Ile	Gly	Arg	Phe	Phe	Gly	
850					855					860						
Glu	Ile	Asp	Pro	Ser	Leu	Met	Arg	His	Leu	Val	Asn	Ile	Ser	Val	Tyr	
865					870					875					880	
Ala	Phe	Asn	Lys	Ser	Tyr	Asp	Tyr	Gln	Ser	Val	Cys	Glu	Pro	Gly	Ala	
885					890					895						
Ala	Pro	Lys	Gln	Gly	Ala	Gly	His	Arg	Ser	Ala	Tyr	Val	Pro	Ser	Ile	

900	905	910
Ala Asp Ile Leu His Ile Gly Trp Trp Ala Thr Ala Ala Ala Trp Ser		
915	920	925
Ile Leu Gln Gln Phe Leu Leu Ser Leu Thr Phe Pro Arg Leu Leu Glu		
930	935	940
Ala Val Glu Met Glu Asp Asp Asp Phe Thr Ala Ser Leu Ser Lys Gln		
945	950	955
Ser Cys Ile Thr Glu Gln Thr Gln Tyr Phe Phe Asp Asn Asp Ser Lys		
965	970	975
Ser Phe Ser Gly Val Leu Asp Cys Gly Asn Cys Ser Arg Ile Phe His		
980	985	990
Val Glu Lys Leu Met Asn Thr Asn Leu Ile Phe Ile Met Val Glu Ser		
995	1000	1005
Lys Gly Thr Cys Pro Cys Asp Thr Arg Leu		
1010	1015	

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 <213> Sus scrofa

<400> 35															
Met	Ala	Ala	Gly	Cys	Leu	Leu	Ala	Leu	Thr	Leu	Thr	Leu	Phe	Gln	Ser
1				5					10					15	
Leu	Leu	Ile	Gly	Pro	Ser	Ser	Gln	Glu	Pro	Phe	Pro	Ser	Ala	Val	Thr
			20					25					30		
Ile	Lys	Ser	Trp	Val	Asp	Lys	Met	Gln	Glu	Asp	Leu	Val	Thr	Leu	Ala
		35					40					45			
Lys	Thr	Ala	Ser	Gly	Val	Asn	Gln	Leu	Val	Asp	Ile	Tyr	Glu	Lys	Tyr
	50					55					60				
Gln	Asp	Leu	Tyr	Thr	Val	Glu	Pro	Asn	Asn	Ala	Arg	Gln	Leu	Val	Glu
65					70					75				80	
Ile	Ala	Ala	Arg	Asp	Ile	Glu	Lys	Leu	Leu	Ser	Asn	Arg	Ser	Lys	Ala
				85					90					95	

Leu Val Arg Leu Ala Leu Glu Ala Glu Lys Val Gln Ala Ala His Gln
 100 105 110
 Trp Arg Glu Asp Phe Ala Ser Asn Glu Val Val Tyr Tyr Asn Ala Lys
 115 120 125
 Asp Asp Leu Asp Pro Glu Lys Asn Asp Ser Glu Pro Gly Ser Gln Arg
 130 135 140
 Ile Lys Pro Val Phe Ile Asp Asp Ala Asn Phe Gly Arg Gln Ile Ser
 145 150 155 160
 Tyr Gln His Ala Ala Val His Ile Pro Thr Asp Ile Tyr Glu Gly Ser
 165 170 175
 Thr Ile Val Leu Asn Glu Leu Asn Trp Thr Ser Ala Leu Asp Glu Val
 180 185 190
 Phe Lys Lys Asn Arg Glu Glu Asp Pro Ser Leu Leu Trp Gln Val Phe
 195 200 205
 Gly Ser Ala Thr Gly Leu Ala Arg Tyr Tyr Pro Ala Ser Pro Trp Val
 210 215 220
 Asp Asn Ser Arg Thr Pro Asn Lys Ile Asp Leu Tyr Asp Val Arg Arg
 225 230 235 240
 Arg Pro Trp Tyr Ile Gln Gly Ala Ala Ser Pro Lys Asp Met Leu Ile
 245 250 255
 Leu Val Asp Val Ser Gly Ser Val Ser Gly Leu Thr Leu Lys Leu Ile
 260 265 270
 Arg Thr Ser Val Ser Glu Met Leu Glu Thr Leu Ser Asp Asp Asp Phe
 275 280 285
 Val Asn Val Ala Ser Phe Asn Ser Asn Ala Gln Asp Val Ser Cys Phe
 290 295 300
 Gln His Leu Val Gln Ala Asn Val Arg Asn Lys Lys Val Leu Lys Asp
 305 310 315 320
 Ala Val Asn Asn Ile Thr Ala Lys Gly Ile Thr Asp Tyr Lys Lys Gly
 325 330 335
 Phe Ser Phe Ala Phe Glu Gln Leu Leu Asn Tyr Asn Val Ser Arg Ala
 340 345 350

Asn Cys Asn Lys Ile Ile Met Leu Phe Thr Asp Gly Gly Glu Glu Arg	355	360	365
Ala Gln Glu Ile Phe Ala Lys Tyr Asn Lys Asp Lys Lys Val Arg Val	370	375	380
Phe Thr Phe Ser Val Gly Gln His Asn Tyr Asp Arg Gly Pro Ile Gln	385	390	395
Trp Met Ala Cys Glu Asn Lys Gly Tyr Tyr Tyr Glu Ile Pro Ser Ile	405	410	415
Gly Ala Ile Arg Ile Asn Thr Gln Glu Tyr Leu Asp Val Leu Gly Arg	420	425	430
Pro Met Val Leu Ala Gly Asp Lys Ala Lys Gln Val Gln Trp Thr Asn	435	440	445
Val Tyr Leu Asp Ala Leu Glu Leu Gly Leu Val Ile Thr Gly Thr Leu	450	455	460
Pro Val Phe Asn Ile Thr Gly Gln Asn Glu Asn Lys Thr Asn Leu Lys	465	470	475
Asn Gln Leu Ile Leu Gly Val Met Gly Val Asp Val Ser Leu Glu Asp	485	490	495
Ile Lys Arg Leu Thr Pro Arg Phe Thr Leu Cys Pro Asn Gly Tyr Tyr	500	505	510
Phe Ala Ile Asp Pro Asn Gly Tyr Val Leu Leu His Pro Asn Leu Gln	515	520	525
Pro Lys Asn Pro Lys Ser Gln Glu Pro Val Thr Leu Asp Phe Leu Asp	530	535	540
Ala Glu Leu Glu Asn Asp Ile Lys Val Glu Ile Arg Asn Lys Met Ile	545	550	555
Asp Gly Glu Ser Gly Glu Lys Thr Phe Arg Thr Leu Val Lys Ser Gln	565	570	575
Asp Glu Arg Tyr Ile Asp Lys Gly Asn Arg Thr Tyr Thr Trp Thr Pro	580	585	590
Val Asn Gly Thr Asp Tyr Ser Leu Ala Leu Val Leu Pro Thr Tyr Ser	595	600	605

Phe Tyr Tyr Ile Lys Ala Lys Ile Glu Glu Thr Ile Thr Gln Ala Arg		
610	615	620
Ser Lys Lys Gly Lys Met Lys Asp Ser Glu Thr Leu Lys Pro Asp Asn		
625	630	635 640
Phe Glu Glu Ser Gly Tyr Thr Phe Ile Ala Pro Arg Asp Tyr Cys Asn		
	645	650 655
Asp Leu Lys Ile Ser Asp Asn Asn Thr Glu Phe Leu Leu Asn Phe Asn		
	660	665 670
Glu Phe Ile Asp Arg Lys Thr Pro Asn Asn Pro Ser Cys Asn Thr Asp		
	675	680 685
Leu Ile Asn Arg Val Leu Leu Asp Ala Gly Phe Thr Asn Glu Leu Val		
	690	695 700
Gln Asn Tyr Trp Ser Lys Gln Lys Asn Ile Lys Gly Val Lys Ala Arg		
705	710	715 720
Phe Val Val Thr Asp Gly Gly Ile Thr Arg Val Tyr Pro Lys Glu Ala		
	725	730 735
Gly Glu Asn Trp Gln Glu Asn Pro Glu Thr Tyr Glu Asp Ser Phe Tyr		
	740	745 750
Lys Arg Ser Leu Asp Asn Asp Asn Tyr Val Phe Thr Ala Pro Tyr Phe		
	755	760 765
Asn Lys Ser Gly Pro Gly Ala Tyr Glu Ser Gly Ile Met Val Ser Lys		
	770	775 780
Ala Val Glu Ile Tyr Ile Gln Gly Lys Leu Leu Lys Pro Ala Val Val		
785	790	795 800
Gly Ile Lys Ile Asp Val Asn Ser Trp Ile Glu Asn Phe Thr Lys Thr		
	805	810 815
Ser Ile Arg Asp Pro Cys Ala Gly Pro Val Cys Asp Cys Lys Arg Asn		
	820	825 830
Ser Asp Val Met Asp Cys Val Ile Leu Asp Asp Gly Gly Phe Leu Leu		
	835	840 845
Met Ala Asn His Asp Asp Tyr Thr Asn Gln Ile Gly Arg Phe Phe Gly		
	850	855 860

Glu Ile Asp Pro Ser Leu Met Arg His Leu Val Asn Ile Ser Val Tyr
 865 870 875 880

Ala Phe Asn Lys Ser Tyr Asp Tyr Gln Ser Val Cys Glu Pro Gly Ala
 885 890 895

Ala Pro Lys Gln Gly Ala Gly His Arg Ser Ala Tyr Val Pro Ser Ile
 900 905 910

Ala Asp Ile Leu His Ile Gly Trp Trp Ala Thr Ala Ala Ala Trp Ser
 915 920 925

Ile Leu Gln Gln Phe Leu Leu Ser Leu Thr Phe Pro Arg Leu Leu Glu
 930 935 940

Ala Val Glu Met Glu Asp Asp Asp Phe Thr Ala Ser Leu Ser Lys Gln
 945 950 955 960

Ser Cys Ile Thr Glu Gln Thr Gln Tyr Phe Phe Asp Asn Asp Ser Lys
 965 970 975

Ser Phe Ser Gly Val Leu Asp Cys Gly Asn Cys Ser Arg Ile Phe His
 980 985 990

Val Glu Lys Leu Met Asn Thr Asn Leu Ile Phe Ile Met Val Glu Ser
 995 1000 1005

Lys Gly Thr Cys Pro Cys Asp Thr Arg Leu Leu Ile Gln Ala Glu Gln
 1010 1015 1020

Thr Ser Asp Gly Pro Asp Pro Cys Asp Met Val Lys
 1025 1030 1035

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 <211> 1063
 <212> PRT
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<400> 36
 Met Ala Ala Gly Cys Leu Leu Ala Leu Thr Leu Thr Leu Phe Gln Ser
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Leu Leu Ile Gly Pro Ser Ser Gln Glu Pro Phe Pro Ser Ala Val Thr
 20 25 30

Ile Lys Ser Trp Val Asp Lys Met Gln Glu Asp Leu Val Thr Leu Ala
 35 40 45

Lys Thr Ala Ser Gly Val Asn Gln Leu Val Asp Ile Tyr Glu Lys Tyr
 50 55 60

Gln Asp Leu Tyr Thr Val Glu Pro Asn Asn Ala Arg Gln Leu Val Glu
 65 70 75 80

Ile Ala Ala Arg Asp Ile Glu Lys Leu Leu Ser Asn Arg Ser Lys Ala
 85 90 95

Leu Val Arg Leu Ala Leu Glu Ala Glu Lys Val Gln Ala Ala His Gln
 100 105 110

Trp Arg Glu Asp Phe Ala Ser Asn Glu Val Val Tyr Tyr Asn Ala Lys
 115 120 125

Asp Asp Leu Asp Pro Glu Lys Asn Asp Ser Glu Pro Gly Ser Gln Arg
 130 135 140

Ile Lys Pro Val Phe Ile Asp Asp Ala Asn Phe Gly Arg Gln Ile Ser
 145 150 155 160

Tyr Gln His Ala Ala Val His Ile Pro Thr Asp Ile Tyr Glu Gly Ser
 165 170 175

Thr Ile Val Leu Asn Glu Leu Asn Trp Thr Ser Ala Leu Asp Glu Val
 180 185 190

Phe Lys Lys Asn Arg Glu Glu Asp Pro Ser Leu Leu Trp Gln Val Phe
 195 200 205

Gly Ser Ala Thr Gly Leu Ala Arg Tyr Tyr Pro Ala Ser Pro Trp Val
 210 215 220

Asp Asn Ser Arg Thr Pro Asn Lys Ile Asp Leu Tyr Asp Val Arg Arg
 225 230 235 240

Arg Pro Trp Tyr Ile Gln Gly Ala Ala Ser Pro Lys Asp Met Leu Ile
 245 250 255

Leu Val Asp Val Ser Gly Ser Val Ser Gly Leu Thr Leu Lys Leu Ile
 260 265 270

Arg Thr Ser Val Ser Glu Met Leu Glu Thr Leu Ser Asp Asp Asp Phe
 275 280 285

Val Asn Val Ala Ser Phe Asn Ser Asn Ala Gln Asp Val Ser Cys Phe
 290 295 300

Gln His Leu Val Gln Ala Asn Val Arg Asn Lys Lys Val Leu Lys Asp
 305 310 315 320

Ala Val Asn Asn Ile Thr Ala Lys Gly Ile Thr Asp Tyr Lys Lys Gly
 325 330 335

Phe Ser Phe Ala Phe Glu Gln Leu Leu Asn Tyr Asn Val Ser Arg Ala
 340 345 350

Asn Cys Asn Lys Ile Ile Met Leu Phe Thr Asp Gly Gly Glu Glu Arg
 355 360 365

Ala Gln Glu Ile Phe Ala Lys Tyr Asn Lys Asp Lys Lys Val Arg Val
 370 375 380

Phe Thr Phe Ser Val Gly Gln His Asn Tyr Asp Arg Gly Pro Ile Gln
 385 390 395 400

Trp Met Ala Cys Glu Asn Lys Gly Tyr Tyr Tyr Glu Ile Pro Ser Ile
 405 410 415

Gly Ala Ile Arg Ile Asn Thr Gln Glu Tyr Leu Asp Val Leu Gly Arg
 420 425 430

Pro Met Val Leu Ala Gly Asp Lys Ala Lys Gln Val Gln Trp Thr Asn
 435 440 445

Val Tyr Leu Asp Ala Leu Glu Leu Gly Leu Val Ile Thr Gly Thr Leu
 450 455 460

Pro Val Phe Asn Ile Thr Gly Gln Asn Glu Asn Lys Thr Asn Leu Lys
 465 470 475 480

Asn Gln Leu Ile Leu Gly Val Met Gly Val Asp Val Ser Leu Glu Asp
 485 490 495

Ile Lys Arg Leu Thr Pro Arg Phe Thr Leu Cys Pro Asn Gly Tyr Tyr
 500 505 510

Phe Ala Ile Asp Pro Asn Gly Tyr Val Leu Leu His Pro Asn Leu Gln
 515 520 525

Pro Lys Asn Pro Lys Ser Gln Glu Pro Val Thr Leu Asp Phe Leu Asp
 530 535 540

Ala Glu Leu Glu Asn Asp Ile Lys Val Glu Ile Arg Asn Lys Met Ile
 545 550 555 560

Asp	Gly	Glu	Ser	Gly	Glu	Lys	Thr	Phe	Arg	Thr	Leu	Val	Lys	Ser	Gln	565	570	575	
Asp	Glu	Arg	Tyr	Ile	Asp	Lys	Gly	Asn	Arg	Thr	Tyr	Thr	Trp	Thr	Pro	580	585	590	
Val	Asn	Gly	Thr	Asp	Tyr	Ser	Leu	Ala	Leu	Val	Leu	Pro	Thr	Tyr	Ser	595	600	605	
Phe	Tyr	Tyr	Ile	Lys	Ala	Lys	Ile	Glu	Glu	Thr	Ile	Thr	Gln	Ala	Arg	610	615	620	
Ser	Lys	Lys	Gly	Lys	Met	Lys	Asp	Ser	Glu	Thr	Leu	Lys	Pro	Asp	Asn	625	630	635	640
Phe	Glu	Glu	Ser	Gly	Tyr	Thr	Phe	Ile	Ala	Pro	Arg	Asp	Tyr	Cys	Asn	645	650	655	
Asp	Leu	Lys	Ile	Ser	Asp	Asn	Asn	Thr	Glu	Phe	Leu	Leu	Asn	Phe	Asn	660	665	670	
Glu	Phe	Ile	Asp	Arg	Lys	Thr	Pro	Asn	Asn	Pro	Ser	Cys	Asn	Thr	Asp	675	680	685	
Leu	Ile	Asn	Arg	Val	Leu	Leu	Asp	Ala	Gly	Phe	Thr	Asn	Glu	Leu	Val	690	695	700	
Gln	Asn	Tyr	Trp	Ser	Lys	Gln	Lys	Asn	Ile	Lys	Gly	Val	Lys	Ala	Arg	705	710	715	720
Phe	Val	Val	Thr	Asp	Gly	Gly	Ile	Thr	Arg	Val	Tyr	Pro	Lys	Glu	Ala	725	730	735	
Gly	Glu	Asn	Trp	Gln	Glu	Asn	Pro	Glu	Thr	Tyr	Glu	Asp	Ser	Phe	Tyr	740	745	750	
Lys	Arg	Ser	Leu	Asp	Asn	Asp	Asn	Tyr	Val	Phe	Thr	Ala	Pro	Tyr	Phe	755	760	765	
Asn	Lys	Ser	Gly	Pro	Gly	Ala	Tyr	Glu	Ser	Gly	Ile	Met	Val	Ser	Lys	770	775	780	
Ala	Val	Glu	Ile	Tyr	Ile	Gln	Gly	Lys	Leu	Leu	Lys	Pro	Ala	Val	Val	785	790	795	800
Gly	Ile	Lys	Ile	Asp	Val	Asn	Ser	Trp	Ile	Glu	Asn	Phe	Thr	Lys	Thr	805	810	815	

Ser Ile Arg Asp Pro Cys Ala Gly Pro Val Cys Asp Cys Lys Arg Asn
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Ser Asp Val Met Asp Cys Val Ile Leu Asp Asp Gly Gly Phe Leu Leu
 835 840 845

Met Ala Asn His Asp Asp Tyr Thr Asn Gln Ile Gly Arg Phe Phe Gly
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Glu Ile Asp Pro Ser Leu Met Arg His Leu Val Asn Ile Ser Val Tyr
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Ala Phe Asn Lys Ser Tyr Asp Tyr Gln Ser Val Cys Glu Pro Gly Ala
 885 890 895

Ala Pro Lys Gln Gly Ala Gly His Arg Ser Ala Tyr Val Pro Ser Ile
 900 905 910

Ala Asp Ile Leu His Ile Gly Trp Trp Ala Thr Ala Ala Ala Trp Ser
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Ser Cys Ile Thr Glu Gln Thr Gln Tyr Phe Phe Asp Asn Asp Ser Lys
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<211> 1069

<212> PRT

<213> Sus scrofa

<400> 37

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Lys Thr Ala Ser Gly Val Asn Gln Leu Val Asp Ile Tyr Glu Lys Tyr
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Gln Asp Leu Tyr Thr Val Glu Pro Asn Asn Ala Arg Gln Leu Val Glu
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Leu Val Arg Leu Ala Leu Glu Ala Glu Lys Val Gln Ala Ala His Gln
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Trp Arg Glu Asp Phe Ala Ser Asn Glu Val Val Tyr Tyr Asn Ala Lys
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Asp Asp Leu Asp Pro Glu Lys Asn Asp Ser Glu Pro Gly Ser Gln Arg
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Ile Lys Pro Val Phe Ile Asp Asp Ala Asn Phe Gly Arg Gln Ile Ser
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Tyr Gln His Ala Ala Val His Ile Pro Thr Asp Ile Tyr Glu Gly Ser
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Thr Ile Val Leu Asn Glu Leu Asn Trp Thr Ser Ala Leu Asp Glu Val
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Phe Lys Lys Asn Arg Glu Glu Asp Pro Ser Leu Leu Trp Gln Val Phe
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Gly Ser Ala Thr Gly Leu Ala Arg Tyr Tyr Pro Ala Ser Pro Trp Val

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<211> 3055

<212> DNA

<213> Homo sapiens

<400> 38

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<211> 3109

<212> DNA

<213> Homo sapiens

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<212> DNA

<213> Homo sapiens

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actcaggcca gatcaaaaaa gggcaaaatg aaggattcgg aaacctgaa gccagataat 1920
tttgaagaat ctggctatac attcatagca ccaagagatt actgcaatga cctgaaaata 1980
tcggataata acactgaatt tcttttaaat ttcaacgagt ttattgatag aaaaactcca 2040
aacaacccat catgtaacgc ggatttgatt aatagagtct tgcttgatgc aggctttaca 2100
aatgaacttg tccaaaatta ctggagtaag cagaaaaata tcaagggagt gaaagcacga 2160
tttgttgatga ctgatggtgg gattaccaga gtttatccca aagaggctgg agaaaattgg 2220
caagaaaacc cagagacata tgaggacagc ttctataaaa ggagcctaga taatgataac 2280
tatgttttca ctgctcccta ctttaacaaa agtggacctg gtgcctatga atcgggcatt 2340
atggtaagca aagctgtaga aatatatatt caagggaaac ttcttaaacc tgcagttggt 2400
ggaattaaaa ttgatgtaaa ttcctggata gagaatttca ccaaaacctc aatcagagat 2460
ccgtgtgctg gtccagtttg tgactgcaaa agaaacagtg acgtaatgga ttgtgtgatt 2520
ctggatgatg gtgggtttct tctgatggca aatcatgatg attatactaa tcagattgga 2580
agattttttg gagagattga tcccagcttg atgagacacc tggtaatat atcagtttat 2640
gcttttaaca aatcttatga ttatcagtca gtatgtgagc ccggtgctgc accaaaacaa 2700
ggagcaggac atcgctcagc atatgtgcca tcagtagcag acatattaca aattggctgg 2760
tgggccactg ctgctgcctg gtctattcta cagcagtttc tcttgagttt gacctttcca 2820
cgactccttg aggcagttga gatggaggat gatgacttca cggcctccct gtccaagcag 2880
agctgcatta ctgaacaaac ccagtatttc ttcgataacg acagtaaata attcagtggt 2940

gtattagact gtggaaactg ttccagaatc tttcatggag aaaagcttat gaacaccaac 3000
 ttaatatcca taatgggtga gagcaaaggg acatgtccat gtgacacacg actgctcata 3060
 caagcgggagc agacttctga cggtcctaat ccttgtgaca tggttaagca acctagatac 3120
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 ggtgtttctg 3190

<210> 41

<211> 1018

<212> PRT

<213> Homo sapiens

<400> 41

Met Ala Ala Gly Cys Leu Leu Ala Leu Thr Leu Thr Leu Phe Gln Ser
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Leu Leu Ile Gly Pro Ser Ser Glu Glu Pro Phe Pro Ser Ala Val Thr
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Ile Lys Ser Trp Val Asp Lys Met Gln Glu Asp Leu Val Thr Leu Ala
 35 40 45

Lys Thr Ala Ser Gly Val Asn Gln Leu Val Asp Ile Tyr Glu Lys Tyr
 50 55 60

Gln Asp Leu Tyr Thr Val Glu Pro Asn Asn Ala Arg Gln Leu Val Glu
 65 70 75 80

Ile Ala Ala Arg Asp Ile Glu Lys Leu Leu Ser Asn Arg Ser Lys Ala
 85 90 95

Leu Val Ser Leu Ala Leu Glu Ala Glu Lys Val Gln Ala Ala His Gln
 100 105 110

Trp Arg Glu Asp Phe Ala Ser Asn Glu Val Val Tyr Tyr Asn Ala Lys
 115 120 125

Asp Asp Leu Asp Pro Glu Lys Asn Asp Ser Glu Pro Gly Ser Gln Arg
 130 135 140

Ile Lys Pro Val Phe Ile Glu Asp Ala Asn Phe Gly Arg Gln Ile Ser
 145 150 155 160

Tyr Gln His Ala Ala Val His Ile Pro Thr Asp Ile Tyr Glu Gly Ser
 165 170 175

Thr Ile Val Leu Asn Glu Leu Asn Trp Thr Ser Ala Leu Asp Glu Val
 180 185 190

Phe	Lys	Lys	Asn	Arg	Glu	Glu	Asp	Pro	Ser	Leu	Leu	Trp	Gln	Val	Phe	195	200	205	
Gly	Ser	Ala	Thr	Gly	Leu	Ala	Arg	Tyr	Tyr	Pro	Ala	Ser	Pro	Trp	Val	210	215	220	
Asp	Asn	Ser	Arg	Thr	Pro	Asn	Lys	Ile	Asp	Leu	Tyr	Asp	Val	Arg	Arg	225	230	235	240
Arg	Pro	Trp	Tyr	Ile	Gln	Gly	Ala	Ala	Ser	Pro	Lys	Asp	Met	Leu	Ile	245	250	255	
Leu	Val	Asp	Val	Ser	Gly	Ser	Val	Ser	Gly	Leu	Thr	Leu	Lys	Leu	Ile	260	265	270	
Arg	Thr	Ser	Val	Ser	Glu	Met	Leu	Glu	Thr	Leu	Ser	Asp	Asp	Asp	Phe	275	280	285	
Val	Asn	Val	Ala	Ser	Phe	Asn	Ser	Asn	Ala	Gln	Asp	Val	Ser	Cys	Phe	290	295	300	
Gln	His	Leu	Val	Gln	Ala	Asn	Val	Arg	Asn	Lys	Lys	Val	Leu	Lys	Asp	305	310	315	320
Ala	Val	Asn	Asn	Ile	Thr	Ala	Lys	Gly	Ile	Thr	Asp	Tyr	Lys	Lys	Gly	325	330	335	
Phe	Ser	Phe	Ala	Phe	Glu	Gln	Leu	Leu	Asn	Tyr	Asn	Val	Ser	Arg	Ala	340	345	350	
Asn	Cys	Asn	Lys	Ile	Ile	Met	Leu	Phe	Thr	Asp	Gly	Gly	Glu	Glu	Arg	355	360	365	
Ala	Gln	Glu	Ile	Phe	Asn	Lys	Tyr	Asn	Lys	Asp	Lys	Lys	Val	Arg	Val	370	375	380	
Phe	Arg	Phe	Ser	Val	Gly	Gln	His	Asn	Tyr	Glu	Arg	Gly	Pro	Ile	Gln	385	390	395	400
Trp	Met	Ala	Cys	Glu	Asn	Lys	Gly	Tyr	Tyr	Tyr	Glu	Ile	Pro	Ser	Ile	405	410	415	
Gly	Ala	Ile	Arg	Ile	Asn	Thr	Gln	Glu	Tyr	Leu	Asp	Val	Leu	Gly	Arg	420	425	430	
Pro	Met	Val	Leu	Ala	Gly	Asp	Lys	Ala	Lys	Gln	Val	Gln	Trp	Thr	Asn	435	440	445	

Val Tyr Leu Asp Ala Leu Glu Leu Gly Leu Val Ile Thr Gly Thr Leu
 450 455 460

Pro Val Phe Asn Ile Thr Gly Gln Phe Glu Asn Lys Thr Asn Leu Lys
 465 470 475 480

Asn Gln Leu Ile Leu Gly Val Met Gly Val Asp Val Ser Leu Glu Asp
 485 490 495

Ile Lys Arg Leu Thr Pro Arg Phe Thr Leu Cys Pro Asn Gly Tyr Tyr
 500 505 510

Phe Ala Ile Asp Pro Asn Gly Tyr Val Leu Leu His Pro Asn Leu Gln
 515 520 525

Pro Lys Asn Pro Lys Ser Gln Glu Pro Val Thr Leu Asp Phe Leu Asp
 530 535 540

Ala Glu Leu Glu Asn Asp Ile Lys Val Glu Ile Arg Asn Lys Met Ile
 545 550 555 560

Asp Gly Glu Ser Gly Glu Lys Thr Phe Arg Thr Leu Val Lys Ser Gln
 565 570 575

Asp Glu Arg Tyr Ile Asp Lys Gly Asn Arg Thr Tyr Thr Trp Thr Pro
 580 585 590

Val Asn Gly Thr Asp Tyr Ser Leu Ala Leu Val Leu Pro Thr Tyr Ser
 595 600 605

Phe Tyr Tyr Ile Lys Ala Lys Leu Glu Glu Thr Ile Thr Gln Ala Arg
 610 615 620

Ser Lys Lys Gly Lys Met Lys Asp Ser Glu Thr Leu Lys Pro Asp Asn
 625 630 635 640

Phe Glu Glu Ser Gly Tyr Thr Phe Ile Ala Pro Arg Asp Tyr Cys Asn
 645 650 655

Asp Leu Lys Ile Ser Asp Asn Asn Thr Glu Phe Leu Leu Asn Phe Asn
 660 665 670

Glu Phe Ile Asp Arg Lys Thr Pro Asn Asn Pro Ser Cys Asn Ala Asp
 675 680 685

Leu Ile Asn Arg Val Leu Leu Asp Ala Gly Phe Thr Asn Glu Leu Val
 690 695 700

Gln	Asn	Tyr	Trp	Ser	Lys	Gln	Lys	Asn	Ile	Lys	Gly	Val	Lys	Ala	Arg	705	710	715	720
Phe	Val	Val	Thr	Asp	Gly	Gly	Ile	Thr	Arg	Val	Tyr	Pro	Lys	Glu	Ala	725	730	735	
Gly	Glu	Asn	Trp	Gln	Glu	Asn	Pro	Glu	Thr	Tyr	Glu	Asp	Ser	Phe	Tyr	740	745	750	
Lys	Arg	Ser	Leu	Asp	Asn	Asp	Asn	Tyr	Val	Phe	Thr	Ala	Pro	Tyr	Phe	755	760	765	
Asn	Lys	Ser	Gly	Pro	Gly	Ala	Tyr	Glu	Ser	Gly	Ile	Met	Val	Ser	Lys	770	775	780	
Ala	Val	Glu	Ile	Tyr	Ile	Gln	Gly	Lys	Leu	Leu	Lys	Pro	Ala	Val	Val	785	790	795	800
Gly	Ile	Lys	Ile	Asp	Val	Asn	Ser	Trp	Ile	Glu	Asn	Phe	Thr	Lys	Thr	805	810	815	
Ser	Ile	Arg	Asp	Pro	Cys	Ala	Gly	Pro	Val	Cys	Asp	Cys	Lys	Arg	Asn	820	825	830	
Ser	Asp	Val	Met	Asp	Cys	Val	Ile	Leu	Asp	Asp	Gly	Gly	Phe	Leu	Leu	835	840	845	
Met	Ala	Asn	His	Asp	Asp	Tyr	Thr	Asn	Gln	Ile	Gly	Arg	Phe	Phe	Gly	850	855	860	
Glu	Ile	Asp	Pro	Ser	Leu	Met	Arg	His	Leu	Val	Asn	Ile	Ser	Val	Tyr	865	870	875	880
Ala	Phe	Asn	Lys	Ser	Tyr	Asp	Tyr	Gln	Ser	Val	Cys	Glu	Pro	Gly	Ala	885	890	895	
Ala	Pro	Lys	Gln	Gly	Ala	Gly	His	Arg	Ser	Ala	Tyr	Val	Pro	Ser	Val	900	905	910	
Ala	Asp	Ile	Leu	Gln	Ile	Gly	Trp	Trp	Ala	Thr	Ala	Ala	Ala	Trp	Ser	915	920	925	
Ile	Leu	Gln	Gln	Phe	Leu	Leu	Ser	Leu	Thr	Phe	Pro	Arg	Leu	Leu	Glu	930	935	940	
Ala	Val	Glu	Met	Glu	Asp	Asp	Asp	Phe	Thr	Ala	Ser	Leu	Ser	Lys	Gln	945	950	955	960

Ser Cys Ile Thr Glu Gln Thr Gln Tyr Phe Phe Asp Asn Asp Ser Lys
965 970 975

Ser Phe Ser Gly Val Leu Asp Cys Gly Asn Cys Ser Arg Ile Phe His
980 985 990

Gly Glu Lys Leu Met Asn Thr Asn Leu Ile Phe Ile Met Val Glu Ser
995 1000 1005

Lys Gly Thr Cys Pro Cys Asp Thr Arg Leu
1010 1015

<210> 42

<211> 1036

<212> PRT

<213> Homo sapiens

<400> 42

Met Ala Ala Gly Cys Leu Leu Ala Leu Thr Leu Thr Leu Phe Gln Ser
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Leu Leu Ile Gly Pro Ser Ser Glu Glu Pro Phe Pro Ser Ala Val Thr
20 25 30

Ile Lys Ser Trp Val Asp Lys Met Gln Glu Asp Leu Val Thr Leu Ala
35 40 45

Lys Thr Ala Ser Gly Val Asn Gln Leu Val Asp Ile Tyr Glu Lys Tyr
50 55 60

Gln Asp Leu Tyr Thr Val Glu Pro Asn Asn Ala Arg Gln Leu Val Glu
65 70 75 80

Ile Ala Ala Arg Asp Ile Glu Lys Leu Leu Ser Asn Arg Ser Lys Ala
85 90 95

Leu Val Ser Leu Ala Leu Glu Ala Glu Lys Val Gln Ala Ala His Gln
100 105 110

Trp Arg Glu Asp Phe Ala Ser Asn Glu Val Val Tyr Tyr Asn Ala Lys
115 120 125

Asp Asp Leu Asp Pro Glu Lys Asn Asp Ser Glu Pro Gly Ser Gln Arg
130 135 140

Ile Lys Pro Val Phe Ile Glu Asp Ala Asn Phe Gly Arg Gln Ile Ser

145		150		155		160									
Tyr	Gln	His	Ala	Ala	Val	His	Ile	Pro	Thr	Asp	Ile	Tyr	Glu	Gly	Ser
				165					170					175	
Thr	Ile	Val	Leu	Asn	Glu	Leu	Asn	Trp	Thr	Ser	Ala	Leu	Asp	Glu	Val
			180					185					190		
Phe	Lys	Lys	Asn	Arg	Glu	Glu	Asp	Pro	Ser	Leu	Leu	Trp	Gln	Val	Phe
		195					200					205			
Gly	Ser	Ala	Thr	Gly	Leu	Ala	Arg	Tyr	Tyr	Pro	Ala	Ser	Pro	Trp	Val
	210					215					220				
Asp	Asn	Ser	Arg	Thr	Pro	Asn	Lys	Ile	Asp	Leu	Tyr	Asp	Val	Arg	Arg
225					230					235				240	
Arg	Pro	Trp	Tyr	Ile	Gln	Gly	Ala	Ala	Ser	Pro	Lys	Asp	Met	Leu	Ile
				245					250					255	
Leu	Val	Asp	Val	Ser	Gly	Ser	Val	Ser	Gly	Leu	Thr	Leu	Lys	Leu	Ile
		260						265					270		
Arg	Thr	Ser	Val	Ser	Glu	Met	Leu	Glu	Thr	Leu	Ser	Asp	Asp	Asp	Phe
		275					280					285			
Val	Asn	Val	Ala	Ser	Phe	Asn	Ser	Asn	Ala	Gln	Asp	Val	Ser	Cys	Phe
	290					295					300				
Gln	His	Leu	Val	Gln	Ala	Asn	Val	Arg	Asn	Lys	Lys	Val	Leu	Lys	Asp
305					310					315				320	
Ala	Val	Asn	Asn	Ile	Thr	Ala	Lys	Gly	Ile	Thr	Asp	Tyr	Lys	Lys	Gly
				325					330					335	
Phe	Ser	Phe	Ala	Phe	Glu	Gln	Leu	Leu	Asn	Tyr	Asn	Val	Ser	Arg	Ala
			340					345					350		
Asn	Cys	Asn	Lys	Ile	Ile	Met	Leu	Phe	Thr	Asp	Gly	Gly	Glu	Glu	Arg
		355					360					365			
Ala	Gln	Glu	Ile	Phe	Asn	Lys	Tyr	Asn	Lys	Asp	Lys	Lys	Val	Arg	Val
	370					375					380				
Phe	Arg	Phe	Ser	Val	Gly	Gln	His	Asn	Tyr	Glu	Arg	Gly	Pro	Ile	Gln
385					390					395				400	
Trp	Met	Ala	Cys	Glu	Asn	Lys	Gly	Tyr	Tyr	Tyr	Glu	Ile	Pro	Ser	Ile

	405		410		415										
Gly	Ala	Ile	Arg	Ile	Asn	Thr	Gln	Glu	Tyr	Leu	Asp	Val	Leu	Gly	Arg
	420						425						430		
Pro	Met	Val	Leu	Ala	Gly	Asp	Lys	Ala	Lys	Gln	Val	Gln	Trp	Thr	Asn
	435						440						445		
Val	Tyr	Leu	Asp	Ala	Leu	Glu	Leu	Gly	Leu	Val	Ile	Thr	Gly	Thr	Leu
	450					455						460			
Pro	Val	Phe	Asn	Ile	Thr	Gly	Gln	Phe	Glu	Asn	Lys	Thr	Asn	Leu	Lys
465					470					475					480
Asn	Gln	Leu	Ile	Leu	Gly	Val	Met	Gly	Val	Asp	Val	Ser	Leu	Glu	Asp
			485						490					495	
Ile	Lys	Arg	Leu	Thr	Pro	Arg	Phe	Thr	Leu	Cys	Pro	Asn	Gly	Tyr	Tyr
		500						505					510		
Phe	Ala	Ile	Asp	Pro	Asn	Gly	Tyr	Val	Leu	Leu	His	Pro	Asn	Leu	Gln
	515						520					525			
Pro	Lys	Asn	Pro	Lys	Ser	Gln	Glu	Pro	Val	Thr	Leu	Asp	Phe	Leu	Asp
	530					535					540				
Ala	Glu	Leu	Glu	Asn	Asp	Ile	Lys	Val	Glu	Ile	Arg	Asn	Lys	Met	Ile
545				550					555					560	
Asp	Gly	Glu	Ser	Gly	Glu	Lys	Thr	Phe	Arg	Thr	Leu	Val	Lys	Ser	Gln
			565					570					575		
Asp	Glu	Arg	Tyr	Ile	Asp	Lys	Gly	Asn	Arg	Thr	Tyr	Thr	Trp	Thr	Pro
	580						585						590		
Val	Asn	Gly	Thr	Asp	Tyr	Ser	Leu	Ala	Leu	Val	Leu	Pro	Thr	Tyr	Ser
	595						600					605			
Phe	Tyr	Tyr	Ile	Lys	Ala	Lys	Leu	Glu	Glu	Thr	Ile	Thr	Gln	Ala	Arg
	610					615					620				
Ser	Lys	Lys	Gly	Lys	Met	Lys	Asp	Ser	Glu	Thr	Leu	Lys	Pro	Asp	Asn
625					630					635				640	
Phe	Glu	Glu	Ser	Gly	Tyr	Thr	Phe	Ile	Ala	Pro	Arg	Asp	Tyr	Cys	Asn
			645				650					655			
Asp	Leu	Lys	Ile	Ser	Asp	Asn	Asn	Thr	Glu	Phe	Leu	Leu	Asn	Phe	Asn

660					665					670						
Glu	Phe	Ile	Asp	Arg	Lys	Thr	Pro	Asn	Asn	Pro	Ser	Cys	Asn	Ala	Asp	
675					680					685						
Leu	Ile	Asn	Arg	Val	Leu	Leu	Asp	Ala	Gly	Phe	Thr	Asn	Glu	Leu	Val	
690					695					700						
Gln	Asn	Tyr	Trp	Ser	Lys	Gln	Lys	Asn	Ile	Lys	Gly	Val	Lys	Ala	Arg	
705					710					715					720	
Phe	Val	Val	Thr	Asp	Gly	Gly	Ile	Thr	Arg	Val	Tyr	Pro	Lys	Glu	Ala	
725					730					735						
Gly	Glu	Asn	Trp	Gln	Glu	Asn	Pro	Glu	Thr	Tyr	Glu	Asp	Ser	Phe	Tyr	
740					745					750						
Lys	Arg	Ser	Leu	Asp	Asn	Asp	Asn	Tyr	Val	Phe	Thr	Ala	Pro	Tyr	Phe	
755					760					765						
Asn	Lys	Ser	Gly	Pro	Gly	Ala	Tyr	Glu	Ser	Gly	Ile	Met	Val	Ser	Lys	
770					775					780						
Ala	Val	Glu	Ile	Tyr	Ile	Gln	Gly	Lys	Leu	Leu	Lys	Pro	Ala	Val	Val	
785					790					795					800	
Gly	Ile	Lys	Ile	Asp	Val	Asn	Ser	Trp	Ile	Glu	Asn	Phe	Thr	Lys	Thr	
805					810					815						
Ser	Ile	Arg	Asp	Pro	Cys	Ala	Gly	Pro	Val	Cys	Asp	Cys	Lys	Arg	Asn	
820					825					830						
Ser	Asp	Val	Met	Asp	Cys	Val	Ile	Leu	Asp	Asp	Gly	Gly	Phe	Leu	Leu	
835					840					845						
Met	Ala	Asn	His	Asp	Asp	Tyr	Thr	Asn	Gln	Ile	Gly	Arg	Phe	Phe	Gly	
850					855					860						
Glu	Ile	Asp	Pro	Ser	Leu	Met	Arg	His	Leu	Val	Asn	Ile	Ser	Val	Tyr	
865					870					875					880	
Ala	Phe	Asn	Lys	Ser	Tyr	Asp	Tyr	Gln	Ser	Val	Cys	Glu	Pro	Gly	Ala	
885					890					895						
Ala	Pro	Lys	Gln	Gly	Ala	Gly	His	Arg	Ser	Ala	Tyr	Val	Pro	Ser	Val	
900					905					910						
Ala	Asp	Ile	Leu	Gln	Ile	Gly	Trp	Trp	Ala	Thr	Ala	Ala	Ala	Trp	Ser	

915	920	925
Ile Leu Gln Gln Phe Leu Leu Ser Leu Thr Phe Pro Arg Leu Leu Glu		
930	935	940
Ala Val Glu Met Glu Asp Asp Asp Phe Thr Ala Ser Leu Ser Lys Gln		
945	950	955 960
Ser Cys Ile Thr Glu Gln Thr Gln Tyr Phe Phe Asp Asn Asp Ser Lys		
	965	970 975
Ser Phe Ser Gly Val Leu Asp Cys Gly Asn Cys Ser Arg Ile Phe His		
	980	985 990
Gly Glu Lys Leu Met Asn Thr Asn Leu Ile Phe Ile Met Val Glu Ser		
	995	1000 1005
Lys Gly Thr Cys Pro Cys Asp Thr Arg Leu Leu Ile Gln Ala Glu Gln		
1010	1015	1020
Thr Ser Asp Gly Pro Asn Pro Cys Asp Met Val Lys		
1025	1030	1035
<210> 43		
<211> 1063		
<212> PRT		
<213> Homo sapiens		
<400> 43		
Met Ala Ala Gly Cys Leu Leu Ala Leu Thr Leu Thr Leu Phe Gln Ser		
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Leu Leu Ile Gly Pro Ser Ser Glu Glu Pro Phe Pro Ser Ala Val Thr		
	20	25 30
Ile Lys Ser Trp Val Asp Lys Met Gln Glu Asp Leu Val Thr Leu Ala		
	35	40 45
Lys Thr Ala Ser Gly Val Asn Gln Leu Val Asp Ile Tyr Glu Lys Tyr		
50	55	60
Gln Asp Leu Tyr Thr Val Glu Pro Asn Asn Ala Arg Gln Leu Val Glu		
65	70	75 80
Ile Ala Ala Arg Asp Ile Glu Lys Leu Leu Ser Asn Arg Ser Lys Ala		
	85	90 95

Leu Val Ser Leu Ala Leu Glu Ala Glu Lys Val Gln Ala Ala His Gln
 100 105 110
 Trp Arg Glu Asp Phe Ala Ser Asn Glu Val Val Tyr Tyr Asn Ala Lys
 115 120 125
 Asp Asp Leu Asp Pro Glu Lys Asn Asp Ser Glu Pro Gly Ser Gln Arg
 130 135 140
 Ile Lys Pro Val Phe Ile Glu Asp Ala Asn Phe Gly Arg Gln Ile Ser
 145 150 155 160
 Tyr Gln His Ala Ala Val His Ile Pro Thr Asp Ile Tyr Glu Gly Ser
 165 170 175
 Thr Ile Val Leu Asn Glu Leu Asn Trp Thr Ser Ala Leu Asp Glu Val
 180 185 190
 Phe Lys Lys Asn Arg Glu Glu Asp Pro Ser Leu Leu Trp Gln Val Phe
 195 200 205
 Gly Ser Ala Thr Gly Leu Ala Arg Tyr Tyr Pro Ala Ser Pro Trp Val
 210 215 220
 Asp Asn Ser Arg Thr Pro Asn Lys Ile Asp Leu Tyr Asp Val Arg Arg
 225 230 235 240
 Arg Pro Trp Tyr Ile Gln Gly Ala Ala Ser Pro Lys Asp Met Leu Ile
 245 250 255
 Leu Val Asp Val Ser Gly Ser Val Ser Gly Leu Thr Leu Lys Leu Ile
 260 265 270
 Arg Thr Ser Val Ser Glu Met Leu Glu Thr Leu Ser Asp Asp Asp Phe
 275 280 285
 Val Asn Val Ala Ser Phe Asn Ser Asn Ala Gln Asp Val Ser Cys Phe
 290 295 300
 Gln His Leu Val Gln Ala Asn Val Arg Asn Lys Lys Val Leu Lys Asp
 305 310 315 320
 Ala Val Asn Asn Ile Thr Ala Lys Gly Ile Thr Asp Tyr Lys Lys Gly
 325 330 335
 Phe Ser Phe Ala Phe Glu Gln Leu Leu Asn Tyr Asn Val Ser Arg Ala
 340 345 350

Asn Cys	Asn Lys	Ile Ile	Met Leu	Phe Thr	Asp Gly	Gly Glu	Glu Glu	Arg
355			360			365		
Ala Gln	Glu Ile	Phe Asn	Lys Tyr	Asn Lys	Asp Lys	Lys Val	Arg Val	
370			375			380		
Phe Arg	Phe Ser	Val Gly	Gln His	Asn Tyr	Glu Arg	Gly Pro	Ile Gln	
385			390			395		400
Trp Met	Ala Cys	Glu Asn	Lys Gly	Tyr Tyr	Tyr Glu	Ile Pro	Ser Ile	
		405			410		415	
Gly Ala	Ile Arg	Ile Asn	Thr Gln	Glu Tyr	Leu Asp	Val Leu	Gly Arg	
		420			425		430	
Pro Met	Val Leu	Ala Gly	Asp Lys	Ala Lys	Gln Val	Gln Trp	Thr Asn	
		435			440		445	
Val Tyr	Leu Asp	Ala Leu	Glu Leu	Gly Leu	Val Ile	Thr Gly	Thr Leu	
		450			455		460	
Pro Val	Phe Asn	Ile Thr	Gly Gln	Phe Glu	Asn Lys	Thr Asn	Leu Lys	
465			470			475		480
Asn Gln	Leu Ile	Leu Gly	Val Met	Gly Val	Asp Val	Ser Leu	Glu Asp	
		485			490		495	
Ile Lys	Arg Leu	Thr Pro	Arg Phe	Thr Leu	Cys Pro	Asn Gly	Tyr Tyr	
		500			505		510	
Phe Ala	Ile Asp	Pro Asn	Gly Tyr	Val Leu	Leu His	Pro Asn	Leu Gln	
		515			520		525	
Pro Lys	Asn Pro	Lys Ser	Gln Glu	Pro Val	Thr Leu	Asp Phe	Leu Asp	
		530			535		540	
Ala Glu	Leu Glu	Asn Asp	Ile Lys	Val Glu	Ile Arg	Asn Lys	Met Ile	
545			550			555		560
Asp Gly	Glu Ser	Gly Glu	Lys Thr	Phe Arg	Thr Leu	Val Lys	Ser Gln	
		565			570		575	
Asp Glu	Arg Tyr	Ile Asp	Lys Gly	Asn Arg	Thr Tyr	Thr Trp	Thr Pro	
		580			585		590	
Val Asn	Gly Thr	Asp Tyr	Ser Leu	Ala Leu	Val Leu	Pro Thr	Tyr Ser	
		595			600		605	

Phe Tyr Tyr Ile Lys Ala Lys Leu Glu Glu Thr Ile Thr Gln Ala Arg		
610	615	620
Ser Lys Lys Gly Lys Met Lys Asp Ser Glu Thr Leu Lys Pro Asp Asn		
625	630	635 640
Phe Glu Glu Ser Gly Tyr Thr Phe Ile Ala Pro Arg Asp Tyr Cys Asn		
	645	650 655
Asp Leu Lys Ile Ser Asp Asn Asn Thr Glu Phe Leu Leu Asn Phe Asn		
	660	665 670
Glu Phe Ile Asp Arg Lys Thr Pro Asn Asn Pro Ser Cys Asn Ala Asp		
	675	680 685
Leu Ile Asn Arg Val Leu Leu Asp Ala Gly Phe Thr Asn Glu Leu Val		
	690	695 700
Gln Asn Tyr Trp Ser Lys Gln Lys Asn Ile Lys Gly Val Lys Ala Arg		
705	710	715 720
Phe Val Val Thr Asp Gly Gly Ile Thr Arg Val Tyr Pro Lys Glu Ala		
	725	730 735
Gly Glu Asn Trp Gln Glu Asn Pro Glu Thr Tyr Glu Asp Ser Phe Tyr		
	740	745 750
Lys Arg Ser Leu Asp Asn Asp Asn Tyr Val Phe Thr Ala Pro Tyr Phe		
	755	760 765
Asn Lys Ser Gly Pro Gly Ala Tyr Glu Ser Gly Ile Met Val Ser Lys		
	770	775 780
Ala Val Glu Ile Tyr Ile Gln Gly Lys Leu Leu Lys Pro Ala Val Val		
785	790	795 800
Gly Ile Lys Ile Asp Val Asn Ser Trp Ile Glu Asn Phe Thr Lys Thr		
	805	810 815
Ser Ile Arg Asp Pro Cys Ala Gly Pro Val Cys Asp Cys Lys Arg Asn		
	820	825 830
Ser Asp Val Met Asp Cys Val Ile Leu Asp Asp Gly Gly Phe Leu Leu		
	835	840 845
Met Ala Asn His Asp Asp Tyr Thr Asn Gln Ile Gly Arg Phe Phe Gly		
850	855	860

Glu Ile Asp Pro Ser Leu Met Arg His Leu Val Asn Ile Ser Val Tyr
 865 870 875 880

Ala Phe Asn Lys Ser Tyr Asp Tyr Gln Ser Val Cys Glu Pro Gly Ala
 885 890 895

Ala Pro Lys Gln Gly Ala Gly His Arg Ser Ala Tyr Val Pro Ser Val
 900 905 910

Ala Asp Ile Leu Gln Ile Gly Trp Trp Ala Thr Ala Ala Ala Trp Ser
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Ile Leu Gln Gln Phe Leu Leu Ser Leu Thr Phe Pro Arg Leu Leu Glu
 930 935 940

Ala Val Glu Met Glu Asp Asp Asp Phe Thr Ala Ser Leu Ser Lys Gln
 945 950 955 960

Ser Cys Ile Thr Glu Gln Thr Gln Tyr Phe Phe Asp Asn Asp Ser Lys
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Ser Phe Ser Gly Val Leu Asp Cys Gly Asn Cys Ser Arg Ile Phe His
 980 985 990

Gly Glu Lys Leu Met Asn Thr Asn Leu Ile Phe Ile Met Val Glu Ser
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Lys Gly Thr Cys Pro Cys Asp Thr Arg Leu Leu Ile Gln Ala Glu Gln
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Thr Ser Asp Gly Pro Asn Pro Cys Asp Met Val Lys Gln Pro Arg Tyr
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Arg Lys Gly Pro Asp Val Cys Phe Asp Asn Asn Val Leu Glu Asp Tyr
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Thr Asp Cys Gly Gly Val Ser
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<211> 1091

<212> PRT

<213> Homo sapiens

<400> 44

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 Lys Thr Ala Ser Gly Val Asn Gln Leu Val Asp Ile Tyr Glu Lys Tyr
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 Gln Asp Leu Tyr Thr Val Glu Pro Asn Asn Ala Arg Gln Leu Val Glu
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 Leu Val Ser Leu Ala Leu Glu Ala Glu Lys Val Gln Ala Ala His Gln
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 Trp Arg Glu Asp Phe Ala Ser Asn Glu Val Val Tyr Tyr Asn Ala Lys
 115 120 125
 Asp Asp Leu Asp Pro Glu Lys Asn Asp Ser Glu Pro Gly Ser Gln Arg
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 Ile Lys Pro Val Phe Ile Glu Asp Ala Asn Phe Gly Arg Gln Ile Ser
 145 150 155 160
 Tyr Gln His Ala Ala Val His Ile Pro Thr Asp Ile Tyr Glu Gly Ser
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 Thr Ile Val Leu Asn Glu Leu Asn Trp Thr Ser Ala Leu Asp Glu Val
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 Phe Lys Lys Asn Arg Glu Glu Asp Pro Ser Leu Leu Trp Gln Val Phe
 195 200 205
 Gly Ser Ala Thr Gly Leu Ala Arg Tyr Tyr Pro Ala Ser Pro Trp Val
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 Asp Asn Ser Arg Thr Pro Asn Lys Ile Asp Leu Tyr Asp Val Arg Arg
 225 230 235 240
 Arg Pro Trp Tyr Ile Gln Gly Ala Ala Ser Pro Lys Asp Met Leu Ile
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Arg Thr Ser Val Ser Glu Met Leu Glu Thr Leu Ser Asp Asp Asp Phe
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 Gln His Leu Val Gln Ala Asn Val Arg Asn Lys Lys Val Leu Lys Asp
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 Ala Val Asn Asn Ile Thr Ala Lys Gly Ile Thr Asp Tyr Lys Lys Gly
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 Ala Gln Glu Ile Phe Asn Lys Tyr Asn Lys Asp Lys Lys Val Arg Val
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 Phe Arg Phe Ser Val Gly Gln His Asn Tyr Glu Arg Gly Pro Ile Gln
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 Gly Ala Ile Arg Ile Asn Thr Gln Glu Tyr Leu Asp Val Leu Gly Arg
 420 425 430
 Pro Met Val Leu Ala Gly Asp Lys Ala Lys Gln Val Gln Trp Thr Asn
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 Val Tyr Leu Asp Ala Leu Glu Leu Gly Leu Val Ile Thr Gly Thr Leu
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 Pro Val Phe Asn Ile Thr Gly Gln Phe Glu Asn Lys Thr Asn Leu Lys
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 Ile Lys Arg Leu Thr Pro Arg Phe Thr Leu Cys Pro Asn Gly Tyr Tyr
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 Phe Ala Ile Asp Pro Asn Gly Tyr Val Leu Leu His Pro Asn Leu Gln
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Ala Glu Leu Glu Asn Asp Ile Lys Val Glu Ile Arg Asn Lys Met Ile			
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Asp Gly Glu Ser Gly Glu Lys Thr Phe Arg Thr Leu Val Lys Ser Gln			
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Asp Glu Arg Tyr Ile Asp Lys Gly Asn Arg Thr Tyr Thr Trp Thr Pro			
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Val Asn Gly Thr Asp Tyr Ser Leu Ala Leu Val Leu Pro Thr Tyr Ser			
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Phe Tyr Tyr Ile Lys Ala Lys Leu Glu Glu Thr Ile Thr Gln Ala Arg			
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Ser Lys Lys Gly Lys Met Lys Asp Ser Glu Thr Leu Lys Pro Asp Asn			
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Phe Glu Glu Ser Gly Tyr Thr Phe Ile Ala Pro Arg Asp Tyr Cys Asn			
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	660	665	670
Glu Phe Ile Asp Arg Lys Thr Pro Asn Asn Pro Ser Cys Asn Ala Asp			
	675	680	685
Leu Ile Asn Arg Val Leu Leu Asp Ala Gly Phe Thr Asn Glu Leu Val			
	690	695	700
Gln Asn Tyr Trp Ser Lys Gln Lys Asn Ile Lys Gly Val Lys Ala Arg			
705	710	715	720
Phe Val Val Thr Asp Gly Gly Ile Thr Arg Val Tyr Pro Lys Glu Ala			
	725	730	735
Gly Glu Asn Trp Gln Glu Asn Pro Glu Thr Tyr Glu Asp Ser Phe Tyr			
	740	745	750
Lys Arg Ser Leu Asp Asn Asp Asn Tyr Val Phe Thr Ala Pro Tyr Phe			
	755	760	765
Asn Lys Ser Gly Pro Gly Ala Tyr Glu Ser Gly Ile Met Val Ser Lys			
770	775	780	

Ala Val Glu Ile Tyr Ile Gln Gly Lys Leu Leu Lys Pro Ala Val Val	785	790	795	800
Gly Ile Lys Ile Asp Val Asn Ser Trp Ile Glu Asn Phe Thr Lys Thr		805	810	815
Ser Ile Arg Asp Pro Cys Ala Gly Pro Val Cys Asp Cys Lys Arg Asn		820	825	830
Ser Asp Val Met Asp Cys Val Ile Leu Asp Asp Gly Gly Phe Leu Leu	835		840	845
Met Ala Asn His Asp Asp Tyr Thr Asn Gln Ile Gly Arg Phe Phe Gly	850	855		860
Glu Ile Asp Pro Ser Leu Met Arg His Leu Val Asn Ile Ser Val Tyr	865	870	875	880
Ala Phe Asn Lys Ser Tyr Asp Tyr Gln Ser Val Cys Glu Pro Gly Ala		885	890	895
Ala Pro Lys Gln Gly Ala Gly His Arg Ser Ala Tyr Val Pro Ser Val		900	905	910
Ala Asp Ile Leu Gln Ile Gly Trp Trp Ala Thr Ala Ala Ala Trp Ser	915		920	925
Ile Leu Gln Gln Phe Leu Leu Ser Leu Thr Phe Pro Arg Leu Leu Glu	930	935		940
Ala Val Glu Met Glu Asp Asp Asp Phe Thr Ala Ser Leu Ser Lys Gln	945	950	955	960
Ser Cys Ile Thr Glu Gln Thr Gln Tyr Phe Phe Asp Asn Asp Ser Lys		965	970	975
Ser Phe Ser Gly Val Leu Asp Cys Gly Asn Cys Ser Arg Ile Phe His		980	985	990
Gly Glu Lys Leu Met Asn Thr Asn Leu Ile Phe Ile Met Val Glu Ser	995		1000	1005
Lys Gly Thr Cys Pro Cys Asp Thr Arg Leu Leu Ile Gln Ala Glu Gln	1010	1015		1020
Thr Ser Asp Gly Pro Asn Pro Cys Asp Met Val Lys Gln Pro Arg Tyr	1025	1030	1035	1040

Arg Lys Gly Pro Asp Val Cys Phe Asp Asn Asn Val Leu Glu Asp Tyr
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Thr Asp Cys Gly Gly Val Ser Gly Leu Asn Pro Ser Leu Trp Tyr Ile
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Ile Gly Ile Gln Phe Leu Leu Leu Trp Leu Val Ser Gly Ser Thr His
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Arg Leu Leu
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<211> 3600

<212> DNA

<213> Homo sapiens

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<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: primer

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21

<210> 47

<211> 21

<212> DNA
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: primer

<400> 47

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21

<210> 48

<211> 29

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: primer

<400> 48

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29

<210> 49

<211> 52

<212> DNA

<213> Artificial Sequence

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<223> Description of Artificial Sequence: primer

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<210> 50

<211> 3201

<212> DNA

<213> Homo sapiens

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<210> 51
 <211> 3209
 <212> DNA
 <213> Homo sapiens

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<210> 52

<211> 3339

<212> DNA

<213> Homo sapiens

<400> 52

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<210> 53

<211> 1050

<212> PRT

<213> Homo sapiens

<400> 53

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Met Pro Ala Thr Pro Asn Phe Leu Ala Asn Pro Ser Ser Ser Ser Arg
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Trp Ile Pro Leu Gln Pro Met Pro Val Ala Trp Ala Phe Val Gln Lys
      20             25             30

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```

Thr Ser Ala Leu Leu Trp Leu Leu Leu Gly Thr Ser Leu Ser Pro
      35             40             45

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Ala Trp Gly Gln Ala Lys Ile Pro Leu Glu Thr Val Lys Leu Trp Ala
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Ser	Leu	Leu	Leu	Gln	Lys	Lys	Tyr	Lys	Asp	Val	Glu	Ser	Ser	Leu	Lys	85	90	95	
Ile	Glu	Glu	Val	Asp	Gly	Leu	Glu	Leu	Val	Arg	Lys	Phe	Ser	Glu	Asp	100	105	110	
Met	Glu	Asn	Met	Leu	Arg	Arg	Lys	Val	Glu	Ala	Val	Gln	Asn	Leu	Val	115	120	125	
Glu	Ala	Ala	Glu	Glu	Ala	Asp	Leu	Asn	His	Glu	Phe	Asn	Glu	Ser	Leu	130	135	140	
Val	Phe	Asp	Tyr	Tyr	Asn	Ser	Val	Leu	Ile	Asn	Glu	Arg	Asp	Glu	Lys	145	150	155	160
Gly	Asn	Phe	Val	Glu	Leu	Gly	Ala	Glu	Phe	Leu	Leu	Glu	Ser	Asn	Ala	165	170	175	
His	Phe	Ser	Asn	Leu	Pro	Val	Asn	Thr	Ser	Ile	Ser	Ser	Val	Gln	Leu	180	185	190	
Pro	Thr	Asn	Val	Tyr	Asn	Lys	Asp	Pro	Asp	Ile	Leu	Asn	Gly	Val	Tyr	195	200	205	
Met	Ser	Glu	Ala	Leu	Asn	Ala	Val	Phe	Val	Glu	Asn	Phe	Gln	Arg	Asp	210	215	220	
Pro	Thr	Leu	Thr	Trp	Gln	Tyr	Phe	Gly	Ser	Ala	Thr	Gly	Phe	Phe	Arg	225	230	235	240
Ile	Tyr	Pro	Gly	Ile	Lys	Trp	Thr	Pro	Asp	Glu	Asn	Gly	Val	Ile	Thr	245	250	255	
Phe	Asp	Cys	Arg	Asn	Arg	Gly	Trp	Tyr	Ile	Gln	Ala	Ala	Thr	Ser	Pro	260	265	270	
Lys	Asp	Ile	Val	Ile	Leu	Val	Asp	Val	Ser	Gly	Ser	Met	Lys	Gly	Leu	275	280	285	
Arg	Met	Thr	Ile	Ala	Lys	His	Thr	Ile	Thr	Thr	Ile	Leu	Asp	Thr	Leu	290	295	300	
Gly	Glu	Asn	Asp	Phe	Val	Asn	Ile	Ile	Ala	Tyr	Asn	Asp	Tyr	Val	His	305	310	315	320

Tyr Ile Glu Pro Cys Phe Lys Gly Ile Leu Val Gln Ala Asp Arg Asp
325 330 335
Asn Arg Glu His Phe Lys Leu Leu Val Glu Glu Leu Met Val Lys Gly
340 345 350
Val Gly Val Val Asp Gln Ala Leu Arg Glu Ala Phe Gln Ile Leu Lys
355 360 365
Gln Phe Gln Glu Ala Lys Gln Gly Ser Leu Cys Asn Gln Ala Ile Met
370 375 380
Leu Ile Ser Asp Gly Ala Val Glu Asp Tyr Glu Pro Val Phe Glu Lys
385 390 395 400
Tyr Asn Trp Pro Asp Cys Lys Val Arg Val Phe Thr Tyr Leu Ile Gly
405 410 415
Arg Glu Val Ser Phe Ala Asp Arg Met Lys Trp Ile Ala Cys Asn Asn
420 425 430
Lys Gly Tyr Tyr Thr Gln Ile Ser Thr Leu Ala Asp Thr Gln Glu Asn
435 440 445
Val Met Glu Tyr Leu His Val Leu Ser Arg Pro Met Val Ile Asn His
450 455 460
Asp His Asp Ile Ile Trp Thr Glu Ala Tyr Met Asp Ser Lys Leu Leu
465 470 475 480
Ser Ser Gln Ala Gln Ser Leu Thr Leu Leu Thr Thr Val Ala Met Pro
485 490 495
Val Phe Ser Lys Lys Asn Glu Thr Arg Ser His Gly Ile Leu Leu Gly
500 505 510
Val Val Gly Ser Asp Val Ala Leu Arg Glu Leu Met Lys Leu Ala Pro
515 520 525
Arg Tyr Lys Leu Gly Val His Gly Tyr Ala Phe Leu Asn Thr Asn Asn
530 535 540
Gly Tyr Ile Leu Ser His Pro Asp Leu Arg Pro Leu Tyr Arg Glu Gly
545 550 555 560
Lys Lys Leu Lys Pro Lys Pro Asn Tyr Asn Ser Val Asp Leu Ser Glu
565 570 575

Val	Glu	Trp	Glu	Asp	Gln	Ala	Glu	Ser	Leu	Arg	Thr	Ala	Met	Ile	Asn			
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Arg	Glu	Thr	Gly	Thr	Leu	Ser	Met	Asp	Val	Lys	Val	Pro	Met	Asp	Lys			
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Gly	Lys	Arg	Val	Leu	Phe	Leu	Thr	Asn	Asp	Tyr	Phe	Phe	Thr	Asp	Ile			
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Ser	Asp	Thr	Pro	Phe	Ser	Leu	Gly	Val	Val	Leu	Ser	Arg	Gly	His	Gly			
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Thr	Asp	Ile	Asp	Pro	Asp	His	Arg	Lys	Leu	Ser	Gln	Leu	Glu	Ala	Met			
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Ile	Arg	Phe	Leu	Thr	Arg	Lys	Asp	Pro	Asp	Leu	Glu	Cys	Asp	Glu	Glu			
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Leu	Val	Arg	Glu	Val	Leu	Phe	Asp	Ala	Val	Val	Thr	Ala	Pro	Met	Glu			
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Ala	Tyr	Trp	Thr	Ala	Leu	Ala	Leu	Asn	Met	Ser	Glu	Glu	Ser	Glu	His			
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Val	Val	Asp	Met	Ala	Phe	Leu	Gly	Thr	Arg	Ala	Gly	Leu	Leu	Arg	Ser			
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Ser	Leu	Phe	Val	Gly	Ser	Glu	Lys	Val	Ser	Asp	Arg	Lys	Phe	Leu	Thr			
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Pro	Glu	Asp	Glu	Ala	Ser	Val	Phe	Thr	Leu	Asp	Arg	Phe	Pro	Leu	Trp			
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Arg	Trp	Ala	Glu	Gly	Pro	Glu	Ser	Ala	Gly	Glu	Pro	Met	Val	Val	Thr			
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Ala	Ser	Thr	Ala	Val	Ala	Val	Thr	Val	Asp	Lys	Arg	Thr	Ala	Ile	Ala			
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Phe	Ile	Leu	Ile	Ser	Lys	Arg	Ser	Arg	Glu	Thr	Gly	Arg	Phe	Leu	Gly	885	890	895	
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Ser	Gln	Val	Thr	Met	Tyr	Asp	Tyr	Gln	Ala	Met	Cys	Lys	Pro	Ser	Ser	915	920	925	
His	His	His	Ser	Ala	Ala	Gln	Pro	Leu	Val	Ser	Pro	Ile	Ser	Ala	Phe	930	935	940	
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Glu	Trp	Ser	Val	Trp	Gly	Ser	Trp	Tyr	Asp	Arg	Gly	Ala	Glu	Ala	Lys	965	970	975	
Ser	Val	Phe	His	His	Ser	His	Lys	His	Lys	Lys	Gln	Asp	Pro	Leu	Gln	980	985	990	
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Val	Gln	Gln	Ile	Pro	Asn	Ser	Asn	Leu	Leu	Leu	Leu	Val	Thr	Asp	Pro	1025	1030	1035	1040
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<210> 54

<211> 1069

<212> PRT

<213> Homo sapiens

<400> 54

Met Pro Ala Thr Pro Asn Phe Leu Ala Asn Pro Ser Ser Ser Ser Arg
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Thr Ser Ala Leu Leu Trp Leu Leu Leu Leu Gly Thr Ser Leu Ser Pro
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Ala Trp Gly Gln Ala Lys Ile Pro Leu Glu Thr Val Lys Leu Trp Ala
50 55 60

Asp Thr Phe Gly Gly Asp Leu Tyr Asn Thr Val Thr Lys Tyr Ser Gly
65 70 75 80

Ser Leu Leu Leu Gln Lys Lys Tyr Lys Asp Val Glu Ser Ser Leu Lys
85 90 95

Ile Glu Glu Val Asp Gly Leu Glu Leu Val Arg Lys Phe Ser Glu Asp
100 105 110

Met Glu Asn Met Leu Arg Arg Lys Val Glu Ala Val Gln Asn Leu Val
115 120 125

Glu Ala Ala Glu Glu Ala Asp Leu Asn His Glu Phe Asn Glu Ser Leu
130 135 140

Val Phe Asp Tyr Tyr Asn Ser Val Leu Ile Asn Glu Arg Asp Glu Lys
145 150 155 160

Gly Asn Phe Val Glu Leu Gly Ala Glu Phe Leu Leu Glu Ser Asn Ala
165 170 175

His Phe Ser Asn Leu Pro Val Asn Thr Ser Ile Ser Ser Val Gln Leu
180 185 190

Pro Thr Asn Val Tyr Asn Lys Asp Pro Asp Ile Leu Asn Gly Val Tyr
195 200 205

Met Ser Glu Ala Leu Asn Ala Val Phe Val Glu Asn Phe Gln Arg Asp
210 215 220

Pro Thr Leu Thr Trp Gln Tyr Phe Gly Ser Ala Thr Gly Phe Phe Arg
225 230 235 240

Ile Tyr Pro Gly Ile Lys Trp Thr Pro Asp Glu Asn Gly Val Ile Thr
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Gln	Phe	Gln	Glu	Ala	Lys	Gln	Gly	Ser	Leu	Cys	Asn	Gln	Ala	Ile	Met	
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Val	Phe	Ser	Lys	Lys	Asn	Glu	Thr	Arg	Ser	His	Gly	Ile	Leu	Leu	Gly	
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Val	Val	Gly	Ser	Asp	Val	Ala	Leu	Arg	Glu	Leu	Met	Lys	Leu	Ala	Pro
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Thr	Asp	Ile	Asp	Pro	Asp	His	Arg	Lys	Leu	Ser	Gln	Leu	Glu	Ala	Met
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Leu	Val	Arg	Glu	Val	Leu	Phe	Asp	Ala	Val	Val	Thr	Ala	Pro	Met	Glu
			705			710				715				720	
Ala	Tyr	Trp	Thr	Ala	Leu	Ala	Leu	Asn	Met	Ser	Glu	Glu	Ser	Glu	His
				725					730					735	
Val	Val	Asp	Met	Ala	Phe	Leu	Gly	Thr	Arg	Ala	Gly	Leu	Leu	Arg	Ser
			740					745					750		
Ser	Leu	Phe	Val	Gly	Ser	Glu	Lys	Val	Ser	Asp	Arg	Lys	Phe	Leu	Thr
			755				760						765		

Pro	Glu	Asp	Glu	Ala	Ser	Val	Phe	Thr	Leu	Asp	Arg	Phe	Pro	Leu	Trp	770	775	780	
Tyr	Arg	Gln	Ala	Ser	Glu	His	Pro	Ala	Gly	Ser	Phe	Val	Phe	Asn	Leu	785	790	795	800
Arg	Trp	Ala	Glu	Gly	Pro	Glu	Ser	Ala	Gly	Glu	Pro	Met	Val	Val	Thr	805	810	815	
Ala	Ser	Thr	Ala	Val	Ala	Val	Thr	Val	Asp	Lys	Arg	Thr	Ala	Ile	Ala	820	825	830	
Ala	Ala	Ala	Gly	Val	Gln	Met	Lys	Leu	Glu	Phe	Leu	Gln	Arg	Lys	Phe	835	840	845	
Trp	Ala	Ala	Thr	Arg	Gln	Cys	Ser	Thr	Val	Asp	Gly	Pro	Cys	Thr	Gln	850	855	860	
Ser	Cys	Glu	Asp	Ser	Asp	Leu	Asp	Cys	Phe	Val	Ile	Asp	Asn	Asn	Gly	865	870	875	880
Phe	Ile	Leu	Ile	Ser	Lys	Arg	Ser	Arg	Glu	Thr	Gly	Arg	Phe	Leu	Gly	885	890	895	
Glu	Val	Asp	Gly	Ala	Val	Leu	Thr	Gln	Leu	Leu	Ser	Met	Gly	Val	Phe	900	905	910	
Ser	Gln	Val	Thr	Met	Tyr	Asp	Tyr	Gln	Ala	Met	Cys	Lys	Pro	Ser	Ser	915	920	925	
His	His	His	Ser	Ala	Ala	Gln	Pro	Leu	Val	Ser	Pro	Ile	Ser	Ala	Phe	930	935	940	
Leu	Thr	Ala	Thr	Arg	Trp	Leu	Leu	Gln	Glu	Leu	Val	Leu	Phe	Leu	Leu	945	950	955	960
Glu	Trp	Ser	Val	Trp	Gly	Ser	Trp	Tyr	Asp	Arg	Gly	Ala	Glu	Ala	Lys	965	970	975	
Ser	Val	Phe	His	His	Ser	His	Lys	His	Lys	Lys	Gln	Asp	Pro	Leu	Gln	980	985	990	
Pro	Cys	Asp	Thr	Glu	Tyr	Pro	Val	Phe	Val	Tyr	Gln	Pro	Ala	Ile	Arg	995	1000	1005	
Glu	Ala	Asn	Gly	Ile	Val	Glu	Cys	Gly	Pro	Cys	Gln	Lys	Val	Phe	Val	1010	1015	1020	

Val Gln Gln Ile Pro Asn Ser Asn Leu Leu Leu Leu Val Thr Asp Pro
 1025 1030 1035 1040

Thr Cys Asp Cys Ser Ile Phe Pro Pro Val Leu Gln Glu Ala Thr Glu
 1045 1050 1055

Val Lys Tyr Asn Ala Ser Val Lys Cys Asp Arg Met Arg
 1060 1065

<210> 55

<211> 1097

<212> PRT

<213> Homo sapiens

<400> 55

Met Pro Ala Thr Pro Asn Phe Leu Ala Asn Pro Ser Ser Ser Ser Arg
 1 5 10 15

Trp Ile Pro Leu Gln Pro Met Pro Val Ala Trp Ala Phe Val Gln Lys
 20 25 30

Thr Ser Ala Leu Leu Trp Leu Leu Leu Leu Gly Thr Ser Leu Ser Pro
 35 40 45

Ala Trp Gly Gln Ala Lys Ile Pro Leu Glu Thr Val Lys Leu Trp Ala
 50 55 60

Asp Thr Phe Gly Gly Asp Leu Tyr Asn Thr Val Thr Lys Tyr Ser Gly
 65 70 75 80

Ser Leu Leu Leu Gln Lys Lys Tyr Lys Asp Val Glu Ser Ser Leu Lys
 85 90 95

Ile Glu Glu Val Asp Gly Leu Glu Leu Val Arg Lys Phe Ser Glu Asp
 100 105 110

Met Glu Asn Met Leu Arg Arg Lys Val Glu Ala Val Gln Asn Leu Val
 115 120 125

Glu Ala Ala Glu Glu Ala Asp Leu Asn His Glu Phe Asn Glu Ser Leu
 130 135 140

Val Phe Asp Tyr Tyr Asn Ser Val Leu Ile Asn Glu Arg Asp Glu Lys
 145 150 155 160

Gly Asn Phe Val Glu Leu Gly Ala Glu Phe Leu Leu Glu Ser Asn Ala

165					170					175						
His	Phe	Ser	Asn	Leu	Pro	Val	Asn	Thr	Ser	Ile	Ser	Ser	Val	Gln	Leu	
180					185					190						
Pro	Thr	Asn	Val	Tyr	Asn	Lys	Asp	Pro	Asp	Ile	Leu	Asn	Gly	Val	Tyr	
195					200					205						
Met	Ser	Glu	Ala	Leu	Asn	Ala	Val	Phe	Val	Glu	Asn	Phe	Gln	Arg	Asp	
210					215					220						
Pro	Thr	Leu	Thr	Trp	Gln	Tyr	Phe	Gly	Ser	Ala	Thr	Gly	Phe	Phe	Arg	
225					230					235					240	
Ile	Tyr	Pro	Gly	Ile	Lys	Trp	Thr	Pro	Asp	Glu	Asn	Gly	Val	Ile	Thr	
245					250					255						
Phe	Asp	Cys	Arg	Asn	Arg	Gly	Trp	Tyr	Ile	Gln	Ala	Ala	Thr	Ser	Pro	
260					265					270						
Lys	Asp	Ile	Val	Ile	Leu	Val	Asp	Val	Ser	Gly	Ser	Met	Lys	Gly	Leu	
275					280					285						
Arg	Met	Thr	Ile	Ala	Lys	His	Thr	Ile	Thr	Thr	Ile	Leu	Asp	Thr	Leu	
290					295					300						
Gly	Glu	Asn	Asp	Phe	Val	Asn	Ile	Ile	Ala	Tyr	Asn	Asp	Tyr	Val	His	
305					310					315					320	
Tyr	Ile	Glu	Pro	Cys	Phe	Lys	Gly	Ile	Leu	Val	Gln	Ala	Asp	Arg	Asp	
325					330					335						
Asn	Arg	Glu	His	Phe	Lys	Leu	Leu	Val	Glu	Glu	Leu	Met	Val	Lys	Gly	
340					345					350						
Val	Gly	Val	Val	Asp	Gln	Ala	Leu	Arg	Glu	Ala	Phe	Gln	Ile	Leu	Lys	
355					360					365						
Gln	Phe	Gln	Glu	Ala	Lys	Gln	Gly	Ser	Leu	Cys	Asn	Gln	Ala	Ile	Met	
370					375					380						
Leu	Ile	Ser	Asp	Gly	Ala	Val	Glu	Asp	Tyr	Glu	Pro	Val	Phe	Glu	Lys	
385					390					395					400	
Tyr	Asn	Trp	Pro	Asp	Cys	Lys	Val	Arg	Val	Phe	Thr	Tyr	Leu	Ile	Gly	
405					410					415						
Arg	Glu	Val	Ser	Phe	Ala	Asp	Arg	Met	Lys	Trp	Ile	Ala	Cys	Asn	Asn	

420	425	430
Lys Gly Tyr Tyr Thr Gln Ile Ser Thr Leu Ala Asp Thr Gln Glu Asn 435	440	445
Val Met Glu Tyr Leu His Val Leu Ser Arg Pro Met Val Ile Asn His 450	455	460
Asp His Asp Ile Ile Trp Thr Glu Ala Tyr Met Asp Ser Lys Leu Leu 465	470	475 480
Ser Ser Gln Ala Gln Ser Leu Thr Leu Leu Thr Thr Val Ala Met Pro 485	490	495
Val Phe Ser Lys Lys Asn Glu Thr Arg Ser His Gly Ile Leu Leu Gly 500	505	510
Val Val Gly Ser Asp Val Ala Leu Arg Glu Leu Met Lys Leu Ala Pro 515	520	525
Arg Tyr Lys Leu Gly Val His Gly Tyr Ala Phe Leu Asn Thr Asn Asn 530	535	540
Gly Tyr Ile Leu Ser His Pro Asp Leu Arg Pro Leu Tyr Arg Glu Gly 545	550	555 560
Lys Lys Leu Lys Pro Lys Pro Asn Tyr Asn Ser Val Asp Leu Ser Glu 565	570	575
Val Glu Trp Glu Asp Gln Ala Glu Ser Leu Arg Thr Ala Met Ile Asn 580	585	590
Arg Glu Thr Gly Thr Leu Ser Met Asp Val Lys Val Pro Met Asp Lys 595	600	605
Gly Lys Arg Val Leu Phe Leu Thr Asn Asp Tyr Phe Phe Thr Asp Ile 610	615	620
Ser Asp Thr Pro Phe Ser Leu Gly Val Val Leu Ser Arg Gly His Gly 625	630	635 640
Glu Tyr Ile Leu Leu Gly Asn Thr Ser Val Glu Glu Gly Leu His Asp 645	650	655
Leu Leu His Pro Asp Leu Ala Leu Ala Gly Asp Trp Ile Tyr Cys Ile 660	665	670
Thr Asp Ile Asp Pro Asp His Arg Lys Leu Ser Gln Leu Glu Ala Met		

675	680	685
Ile Arg Phe Leu Thr Arg Lys Asp Pro Asp Leu Glu Cys Asp Glu Glu		
690	695	700
Leu Val Arg Glu Val Leu Phe Asp Ala Val Val Thr Ala Pro Met Glu		
705	710	715 720
Ala Tyr Trp Thr Ala Leu Ala Leu Asn Met Ser Glu Glu Ser Glu His		
	725 730	735
Val Val Asp Met Ala Phe Leu Gly Thr Arg Ala Ser Gly Leu Leu Arg		
	740 745	750
Ser Ser Leu Phe Val Gly Ser Glu Lys Val Ser Asp Arg Lys Phe Leu		
	755 760	765
Thr Pro Glu Asp Glu Ala Ser Val Phe Thr Leu Asp Arg Phe Pro Leu		
	770 775	780
Trp Tyr Arg Gln Ala Ser Glu His Pro Ala Gly Ser Phe Val Phe Asn		
785	790 795	800
Leu Arg Trp Ala Glu Gly Pro Glu Ser Ala Gly Glu Pro Met Val Val		
	805 810	815
Thr Ala Ser Thr Ala Val Ala Val Thr Val Asp Lys Arg Thr Ala Ile		
	820 825	830
Ala Ala Ala Ala Gly Val Gln Met Lys Leu Glu Phe Leu Gln Arg Lys		
	835 840	845
Phe Trp Ala Ala Thr Arg Gln Cys Ser Thr Val Asp Gly Pro Cys Thr		
	850 855	860
Gln Ser Cys Glu Asp Ser Asp Leu Asp Cys Phe Val Ile Asp Asn Asn		
865	870 875	880
Gly Phe Ile Leu Ile Ser Lys Arg Ser Arg Glu Thr Gly Arg Phe Leu		
	885 890	895
Gly Glu Val Asp Gly Ala Val Leu Thr Gln Leu Leu Ser Met Gly Val		
	900 905	910
Phe Ser Gln Val Thr Met Tyr Asp Tyr Gln Ala Met Cys Lys Pro Ser		
	915 920	925
Ser His His His Ser Ala Ala Gln Pro Leu Val Ser Pro Ile Ser Ala		

930	935	940
Phe Leu Thr Ala Thr Arg Trp Leu Leu Gln Glu Leu Val Leu Phe Leu		
945	950	955 960
Leu Glu Trp Ser Val Trp Gly Ser Trp Tyr Asp Arg Gly Ala Glu Ala		
	965	970 975
Lys Ser Val Phe His His Ser His Lys His Lys Lys Gln Asp Pro Leu		
	980	985 990
Gln Pro Cys Asp Thr Glu Tyr Pro Val Phe Val Tyr Gln Pro Ala Ile		
	995	1000 1005
Arg Glu Ala Asn Gly Ile Val Glu Cys Gly Pro Cys Gln Lys Val Phe		
1010	1015	1020
Val Val Gln Gln Ile Pro Asn Ser Asn Leu Leu Leu Leu Val Thr Asp		
1025	1030	1035 1040
Pro Thr Cys Asp Cys Ser Ile Phe Pro Pro Val Leu Gln Glu Ala Thr		
	1045	1050 1055
Glu Val Lys Tyr Asn Ala Ser Val Lys Cys Asp Arg Met Arg Ser Gln		
	1060	1065 1070
Lys Leu Arg Arg Arg Pro Asp Ser Cys His Ala Phe His Pro Glu Glu		
1075	1080	1085
Asn Ala Gln Asp Cys Gly Gly Ala Ser		
1090	1095	